MacDon

M155*E4*
Self-Propelled Windrower

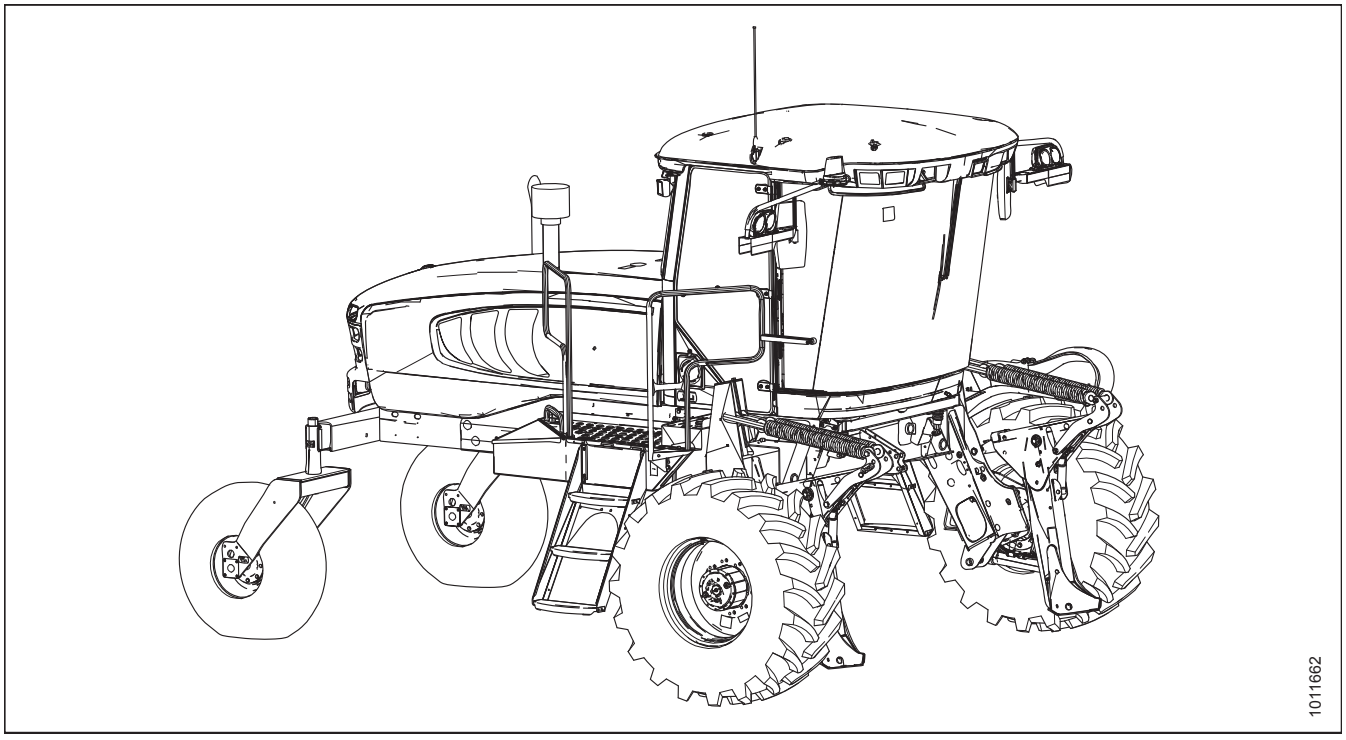
Unloading and Assembly Instructions (Container Shipments)

215104 Revision A

Original Instruction

The harvesting specialists.

Featuring the Dual Direction® and Ultra Glide® suspension on the M155*E4*.



Published in July 2019

Introduction

This instruction manual describes the unloading, setup, and predelivery requirements for the MacDon M155*E4* Self-Propelled Windrowers shipped in containers.

Carefully read all the material provided before attempting to unload, assemble, or use the machine.

Retain this instruction for future reference.

Conventions

The following conventions are used in this document: Right and left are determined from the operator's position. The front of the windrower is the side that faces the crop.

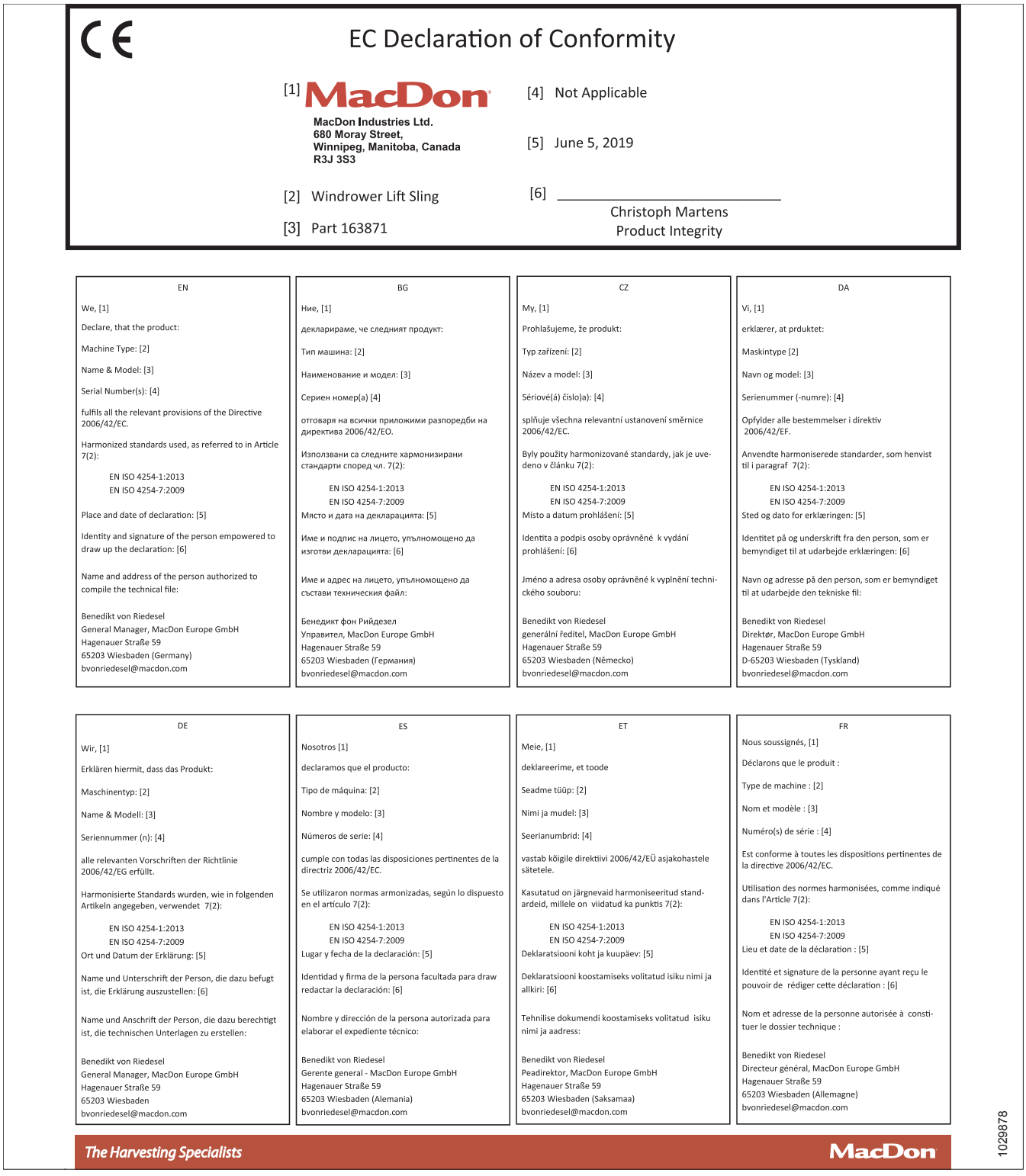
NOTE:

Keep your MacDon publications up-to-date. The most current version can be downloaded from our Dealer-only site (*https://portal.macdon.com*) (login required).

This instruction is available in English only and can be downloaded from our Dealer-only site.

EC Declaration of Conformity—Windrower Lift Sling

Figure 1: EC Declaration of Conformity – Windrower Lift Sling (Page 1 of 2)



CE

EC Declaration of Conformity

[1] MacDon

MacDon Industries Ltd.
680 Moray Street,
Winnipeg, Manitoba, Canada
R3J 3S3

[2] Windrower Lift Sling

[3] Part 163871

[4] Not Applicable

[5] June 5, 2019

[6] _____
Christoph Martens
Product Integrity

EN

We, [1]

Declare, that the product:

Machine Type: [2]

Name & Model: [3]

Serial Number(s): [4]

fulfils all the relevant provisions of the Directive 2006/42/EC.

Harmonized standards used, as referred to in Article 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Place and date of declaration: [5]

Identity and signature of the person empowered to draw up the declaration: [6]

Name and address of the person authorized to compile the technical file:

Benedikt von Riedesel
General Manager, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Germany)
bvonriedesel@macdon.com

BG

Ние, [1]

декларираме, че следният продукт:

Тип машина: [2]

Наименование и модел: [3]

Сериен номер(а) [4]

отговаря на всички приложими разпоредби на директива 2006/42/ЕО.

Използвани са следните хармонизирани стандарти според чл. 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Място и дата на декларацията: [5]

Име и подпис на лицето, упълномощено да изготви декларацията: [6]

Име и адрес на лицето, упълномощено да състави техническия файл:

Бенедикт фон Рийдезел
Управител, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Германия)
bvonriedesel@macdon.com

CZ

My, [1]

Prohlašujeme, že produkt:

Typ zařízení: [2]

Název a model: [3]

Sériové(á) číslo)a): [4]

splňuje všechna relevantní ustanovení směrnice 2006/42/EC.

Byly použity harmonizované standardy, jak je uvedeno v článku 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Místo a datum prohlášení: [5]

Identita a podpis osoby oprávněné k vydání prohlášení: [6]

Jméno a adresa osoby oprávněné k vyplnění technického souboru:

Benedikt von Riedesel
generální ředitel, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Německo)
bvonriedesel@macdon.com

DA

Vi, [1]

erklærer, at prduktet:

Maskintype [2]

Navn og model: [3]

Serienummer (-numre): [4]

Opfylder alle bestemmelser i direktiv 2006/42/EF.

Anvendte harmoniserede standarder, som henvist til i paragraf 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Sted og dato for erklæringen: [5]

Identitet på og underskrift fra den person, som er bemyndiget til at udarbejde erklæringen: [6]

Navn og adresse på den person, som er bemyndiget til at udarbejde den tekniske fil:

Benedikt von Riedesel
Direktør, MacDon Europe GmbH
Hagenauer Straße 59
D-65203 Wiesbaden (Tyskland)
bvonriedesel@macdon.com

DE

Wir, [1]

Erklären hiermit, dass das Produkt:

Maschinentyp: [2]

Name & Modell: [3]

Seriennummer (n): [4]

alle relevanten Vorschriften der Richtlinie 2006/42/EG erfüllt.

Harmonisierte Standards wurden, wie in folgenden Artikeln angegeben, verwendet 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Ort und Datum der Erklärung: [5]

Name und Unterschrift der Person, die dazu befugt ist, die Erklärung auszustellen: [6]

Name und Anschrift der Person, die dazu berechtigt ist, die technischen Unterlagen zu erstellen:

Benedikt von Riedesel
General Manager, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden
bvonriedesel@macdon.com

ES

Nosotros [1]

declaramos que el producto:

Tipo de máquina: [2]

Nombre y modelo: [3]

Números de serie: [4]

cumple con todas las disposiciones pertinentes de la directriz 2006/42/EC.

Se utilizaron normas armonizadas, según lo dispuesto en el artículo 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Lugar y fecha de la declaración: [5]

Identidad y firma de la persona facultada para draw redactar la declaración: [6]

Nombre y dirección de la persona autorizada para elaborar el expediente técnico:

Benedikt von Riedesel
Gerente general - MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Alemania)
bvonriedesel@macdon.com

ET

Meie, [1]

deklareerime, et toode

Seadme tüüp: [2]

Nimi ja mudel: [3]

Seerianumbrid: [4]

vastab kõigile direktiivi 2006/42/EÜ asjakohastele sätetele.

Kasutatud on järgnevaid harmoniseeritud standardeid, millele on viidatud ka punktis 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Deklaratsiooni koht ja kuupäev: [5]

Deklaratsiooni koostamiseks volitatud isiku nimi ja allkiri: [6]

Tehnilise dokumendi koostamiseks volitatud isiku nimi ja aadress:

Benedikt von Riedesel
Peadirektor, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Saksamaa)
bvonriedesel@macdon.com

FR

Nous soussignés, [1]

Déclarons que le produit :

Type de machine : [2]

Nom et modèle : [3]

Numéro(s) de série : [4]

Est conforme à toutes les dispositions pertinentes de la directive 2006/42/EC.

Utilisation des normes harmonisées, comme indiqué dans l'Article 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Lieu et date de la déclaration : [5]

Identité et signature de la personne ayant reçu le pouvoir de rédiger cette déclaration : [6]

Nom et adresse de la personne autorisée à constituer le dossier technique :

Benedikt von Riedesel
Directeur général, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Allemagne)
bvonriedesel@macdon.com

The Harvesting Specialists

MacDon

1029878

Figure 2: EC Declaration of Conformity – Windrower Lift Sling (Page 2 of 2)

EC Declaration of Conformity

IT

Noi, [1]

Dichiariamo che il prodotto:

Tipo di macchina: [2]

Nome e modello: [3]

Numero(i) di serie: [4]

soddisfa tutte le disposizioni rilevanti della direttiva 2006/42/CE.

Utilizzo degli standard armonizzati, come indicato nell'Articolo 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Luogo e data della dichiarazione: [5]

Nome e firma della persona autorizzata a redigere la dichiarazione: [6]

Nome e persona autorizzata a compilare il file tecnico:

Benedikt von Riedesel
General Manager, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Germania)
bvonriedesel@macdon.com

HU

Mi, [1]

Ezennel kijelentjük, hogy a következő termék:

Gép típusa: [2]

Név és modell: [3]

Szériaszám(ok): [4]

teljesíti a következő irányelv összes vonatkozó előírásait: 2006/42/EK.

Az alábbi harmonizált szabványok kerültek alkalmazásra a 7(2) cikkely szerint:

EN ISO 4254-1:2013

EN ISO 4254-7:2009

A nyilatkozattétel ideje és helye: [5]

Azon személy kiléte és aláírása, aki jogosult a nyilatkozat elkészítésére: [6]

Azon személy neve és aláírása, aki felhatalmazott a műszaki dokumentáció összeállítására:

Benedikt von Riedesel
Vezérigazgató, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Németország)
bvonriedesel@macdon.com

LT

Mes, [1]

Pareiškiame, kad šis produktas:

Mašinos tipas: [2]

Pavadinimas ir modelis: [3]

Serijos numeris (-iai): [4]

atitinka taikomus reikalavimus pagal Direktyvą 2006/42/EB.

Naudojami harmonizuoti standartai, kai nurodoma straipsnyje 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Deklaracijos vieta ir data: [5]

Asmens tapatybės duomenys ir parašas asmens, įgalioto sudaryti šią deklaraciją: [6]

Vardas ir pavardė asmens, kuris įgaliotas sudaryti šį techninį failą:

Benedikt von Riedesel
Generalinis direktorius, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Vokietija)
bvonriedesel@macdon.com

LV

Mēs, [1]

Deklarējam, ka produkts:

Mašīnas tips: [2]

Nosaukums un modelis: [3]

Sērijas numurs(-i): [4]

Atbilst visām būtiskajām Direktīvas 2006/42/EK prasībām.

Piemēroti šādi saskaņotie standarti , kā minēts 7. panta 2. punktā:

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Deklarācijas parakstīšanas vieta un datums: [5]

Tās personas vārds, uzvārds un paraksts, kas ir pilnvarota sagatavot šo deklarāciju: [6]

Tās personas vārds, uzvārds un adrese, kas ir pilnvarota sastādīt tehnisko dokumentāciju:

Benedikts fon Rīdīzels
Ģenerāldirektors, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Vācija)
bvonriedesel@macdon.com

NL

Wij, [1]

Verklaren dat het product:

Machinetype: [2]

Naam en model: [3]

Serienummer(s): [4]

voldoet aan alle relevante bepalingen van de Richtlijn 2006/42/EC.

Geharmoniseerde normen toegepast, zoals vermeld in Artikel 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Plaats en datum van verklaring: [5]

Naam en handtekening van de bevoegde persoon om de verklaring op te stellen: [6]

Naam en adres van de geautoriseerde persoon om het technisch dossier samen te stellen:

Benedikt von Riedesel
Algemeen directeur, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Duitsland)
bvonriedesel@macdon.com

PO

My niżej podpisani, [1]

Oświadczamy, że produkt:

Typ urządzenia: [2]

Nazwa i model: [3]

Numer seryjny/numery seryjne: [4]

spełnia wszystkie odpowiednie przepisy dyrektywy 2006/42/WE.

Zastosowaliśmy następujące (zharmonizowane) normy zgodnie z artykułem 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Data i miejsce oświadczenia: [5]

Imię i nazwisko oraz podpis osoby upoważnionej do przygotowania deklaracji: [6]

Imię i nazwisko oraz adres osoby upoważnionej do przygotowania dokumentacji technicznej:

Benedikt von Riedesel
Dyrektor generalny, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Niemcy)
bvonriedesel@macdon.com

PT

Nós, [1]

Declaramos, que o produto:

Tipo de máquina: [2]

Nome e Modelo: [3]

Número(s) de Série: [4]

cumpre todas as disposições relevantes da Directiva 2006/42/CE.

Normas harmonizadas aplicadas, conforme referido no Artigo 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Local e data da declaração: [5]

Identidade e assinatura da pessoa autorizada a elaborar a declaração: [6]

Nome e endereço da pessoa autorizada a compilar o ficheiro técnico:

Benedikt von Riedesel
Gerente Geral, MacDon Europa Ltda.
Hagenauer Straße 59
65203 Wiesbaden (Alemanha)
bvonriedesel@macdon.com

RO

Noi, [1]

Declarăm, că următorul produs:

Tipul mașinii: [2]

Denumirea și modelul: [3]

Număr (numere) serie: [4]

corespunde tuturor dispozițiilor esențiale ale directivei 2006/42/EC.

Au fost aplicate următoarele standarde armonizate conform articolului 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Data și locul declarației: [5]

Identitatea și semnătura persoanei împuternicite pentru întocmirea declarației: [6]

Numele și semnătura persoanei autorizate pentru întocmirea cărții tehnice:

Benedikt von Riedesel
Manager General, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Germania)
bvonriedesel@macdon.com

SR

Mi, [1]

Izjavljujemo da proizvod

Tip mašine: [2]

Naziv i model: [3]

Serijski broj(evi): [4]

Ispunjava sve relevantne odredbe direktive 2006/42/EC.

Korišæeni su usklađeni standardi kao što je navedeno u èlanu 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Datum i mesto izdavanja deklaracije: [5]

Identitet i potpis lica ovlašæenog za sastavljanje deklaracije: [6]

Ime i adresa osobe ovlašæene za sastavljanje tehnièke datoteke:

Benedikt von Riedesel
Generalni direktor, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Nemačka)
bvonriedesel@macdon.com

SV

Vi, [1]

Intygar att produkten:

Maskintyp: [2]

Namn och modell: [3]

Serienummer: [4]

uppfyller alla relevanta villkor i direktivet 2006/42/EG.

Harmonierade standarder används, såsom anges i artikel 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Plats och datum för intyget: [5]

Identitet och signatur för person med befogenhet att upprätta intyget: [6]

Namn och adress för person behörig att upprätta den tekniska dokumentationen:

Benedikt von Riedesel
Administrativ chef, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Tyskland)
bvonriedesel@macdon.com

SL

Mi, [1]

izjavljamo, da izdelek:

Vrsta stroja: [2]

Ime in model: [3]

Serijska/-e številka/-e: [4]

ustreza vsem zadevnim določbam Direktive 2006/42/ES.

Uporabljeni usklajeni standardi, kot je navedeno v členu 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Kraj in datum izjave: [5]

Istovetnost in podpis osebe, opolnomočene za pripravo izjave: [6]

Ime in naslov osebe, pooblaščene za pripravo tehnične datoteke:

Benedikt von Riedesel
Generalni direktor, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Nemčija)
bvonriedesel@macdon.com

SK

My, [1]

týmto prehlasujeme, že tento výrobok:

Typ zariadenia: [2]

Názov a model: [3]

Výrobné číslo: [4]

spĺňa príslušné ustanovenia a základné požiadavky smernice č. 2006/42/ES.

Použité harmonizované normy, ktoré sa uvádzajú v Článku č. 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Miesto a dátum prehlásenia: [5]

Meno a podpis osoby oprávnenej vypracovať toto prehlásenie: [6]

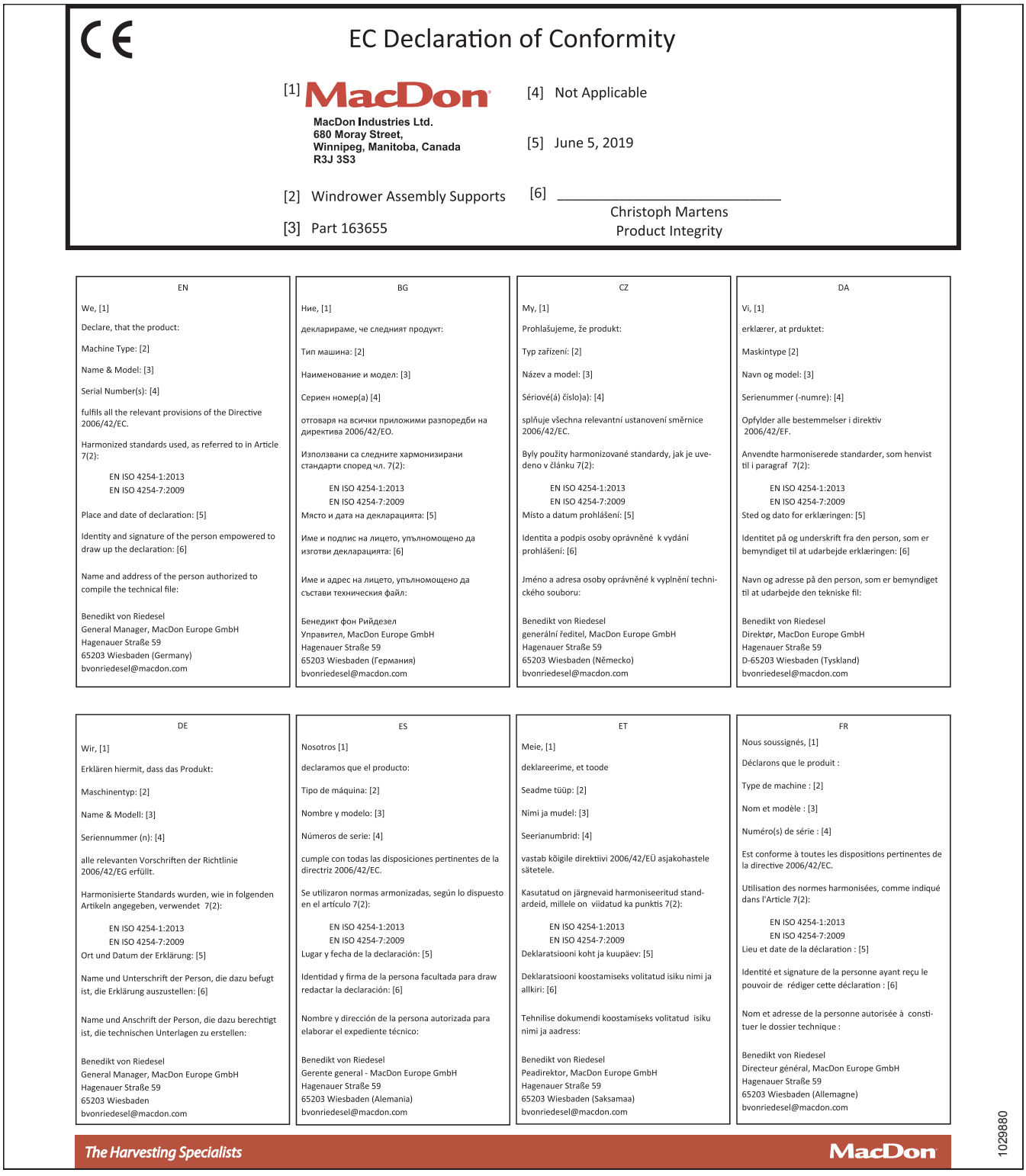
Meno a adresa osoby oprávnenej zostaviť technický súbor:

Benedikt von Riedesel
Generálny riaditeľ MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Nemecko)
bvonriedesel@macdon.com

1029879

EC Declaration of Conformity—Windrower Assembly Supports

Figure 3: EC Declaration of Conformity – Windrower Assembly Supports (Page 1 of 2)



CE

EC Declaration of Conformity

[1] MacDon

MacDon Industries Ltd.
680 Moray Street,
Winnipeg, Manitoba, Canada
R3J 3S3

[2] Windrower Assembly Supports

[3] Part 163655

[4] Not Applicable

[5] June 5, 2019

[6] _____
Christoph Martens
Product Integrity

EN

We, [1]

Declare, that the product:

Machine Type: [2]

Name & Model: [3]

Serial Number(s): [4]

fulfils all the relevant provisions of the Directive 2006/42/EC.

Harmonized standards used, as referred to in Article 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Place and date of declaration: [5]

Identity and signature of the person empowered to draw up the declaration: [6]

Name and address of the person authorized to compile the technical file:

Benedikt von Riedesel
General Manager, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Germany)
bvonriedesel@macdon.com

BG

Ние, [1]

декларираме, че следният продукт:

Тип машина: [2]

Наименование и модел: [3]

Сериен номер(а) [4]

отговаря на всички приложими разпоредби на директива 2006/42/ЕО.

Използвани са следните хармонизирани стандарти според чл. 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Място и дата на декларацията: [5]

Име и подпис на лицето, упълномощено да изготви декларацията: [6]

Име и адрес на лицето, упълномощено да състави техническия файл:

Бенедикт фон Рийдезел
Управител, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Германия)
bvonriedesel@macdon.com

CZ

My, [1]

Prohlašujeme, že produkt:

Typ zařízení: [2]

Název a model: [3]

Sériové(á) číslo)a): [4]

splňuje všechna relevantní ustanovení směrnice 2006/42/EC.

Byly použity harmonizované standardy, jak je uvedeno v článku 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Místo a datum prohlášení: [5]

Identita a podpis osoby oprávněné k vydání prohlášení: [6]

Jméno a adresa osoby oprávněné k vyplnění technického souboru:

Benedikt von Riedesel
generální ředitel, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Německo)
bvonriedesel@macdon.com

DA

Vi, [1]

erklærer, at prduktet:

Maskintype [2]

Navn og model: [3]

Serienummer (-numre): [4]

Opfylder alle bestemmelser i direktiv 2006/42/EF.

Anvendte harmoniserede standarder, som henvist til i paragraf 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Sted og dato for erklæringen: [5]

Identitet på og underskrift fra den person, som er bemyndiget til at udarbejde erklæringen: [6]

Navn og adresse på den person, som er bemyndiget til at udarbejde den tekniske fil:

Benedikt von Riedesel
Direktør, MacDon Europe GmbH
Hagenauer Straße 59
D-65203 Wiesbaden (Tyskland)
bvonriedesel@macdon.com

DE

Wir, [1]

Erklären hiermit, dass das Produkt:

Maschinentyp: [2]

Name & Modell: [3]

Seriennummer (n): [4]

alle relevanten Vorschriften der Richtlinie 2006/42/EG erfüllt.

Harmonisierte Standards wurden, wie in folgenden Artikeln angegeben, verwendet 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Ort und Datum der Erklärung: [5]

Name und Unterschrift der Person, die dazu befugt ist, die Erklärung auszustellen: [6]

Name und Anschrift der Person, die dazu berechtigt ist, die technischen Unterlagen zu erstellen:

Benedikt von Riedesel
General Manager, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden
bvonriedesel@macdon.com

ES

Nosotros [1]

declaramos que el producto:

Tipo de máquina: [2]

Nombre y modelo: [3]

Números de serie: [4]

cumple con todas las disposiciones pertinentes de la directriz 2006/42/EC.

Se utilizaron normas armonizadas, según lo dispuesto en el artículo 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Lugar y fecha de la declaración: [5]

Identidad y firma de la persona facultada para draw redactar la declaración: [6]

Nombre y dirección de la persona autorizada para elaborar el expediente técnico:

Benedikt von Riedesel
Gerente general - MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Alemania)
bvonriedesel@macdon.com

ET

Meie, [1]

deklareerime, et toode

Seadme tüüp: [2]

Nimi ja mudel: [3]

Seerianumbrid: [4]

vastab kõigile direktiivi 2006/42/EÜ asjakohastele sätetele.

Kasutatud on järgnevaid harmoniseeritud standardeid, millele on viidatud ka punktis 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Deklaratsiooni koht ja kuupäev: [5]

Deklaratsiooni koostamiseks volitatud isiku nimi ja allkiri: [6]

Tehnilise dokumendi koostamiseks volitatud isiku nimi ja aadress:

Benedikt von Riedesel
Peadirektor, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Saksamaa)
bvonriedesel@macdon.com

FR

Nous soussignés, [1]

Déclarons que le produit :

Type de machine : [2]

Nom et modèle : [3]

Numéro(s) de série : [4]

Est conforme à toutes les dispositions pertinentes de la directive 2006/42/EC.

Utilisation des normes harmonisées, comme indiqué dans l'Article 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Lieu et date de la déclaration : [5]

Identité et signature de la personne ayant reçu le pouvoir de rédiger cette déclaration : [6]

Nom et adresse de la personne autorisée à constituer le dossier technique :

Benedikt von Riedesel
Directeur général, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Allemagne)
bvonriedesel@macdon.com

The Harvesting Specialists

MacDon

1029880

Figure 4: EC Declaration of Conformity – Windrower Assembly Supports (Page 2 of 2)

EC Declaration of Conformity

IT

Noi, [1]

Dichiariamo che il prodotto:

Tipo di macchina: [2]

Nome e modello: [3]

Numero(i) di serie: [4]

soddisfa tutte le disposizioni rilevanti della direttiva 2006/42/CE.

Utilizzo degli standard armonizzati, come indicato nell'Articolo 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Luogo e data della dichiarazione: [5]

Nome e firma della persona autorizzata a redigere la dichiarazione: [6]

Nome e persona autorizzata a compilare il file tecnico:

Benedikt von Riedesel
General Manager, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Germania)
bvonriedesel@macdon.com

HU

Mi, [1]

Ezennel kijelentjük, hogy a következő termék:

Gép típusa: [2]

Név és modell: [3]

Szériaszám(ok): [4]

teljesíti a következő irányelv összes vonatkozó előírásait: 2006/42/EK.

Az alábbi harmonizált szabványok kerültek alkalmazásra a 7(2) cikkely szerint:

EN ISO 4254-1:2013

EN ISO 4254-7:2009

A nyilatkozattétel ideje és helye: [5]

Azon személy kiléte és aláírása, aki jogosult a nyilatkozat elkészítésére: [6]

Azon személy neve és aláírása, aki felhatalmazott a műszaki dokumentáció összeállítására:

Benedikt von Riedesel
Vezérigazgató, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Németország)
bvonriedesel@macdon.com

LT

Mes, [1]

Pareiškiame, kad šis produktas:

Mašinos tipas: [2]

Pavadinimas ir modelis: [3]

Serijos numeris (-iai): [4]

atitinka taikomus reikalavimus pagal Direktyvą 2006/42/EB.

Naudojami harmonizuoti standartai, kai nurodoma straipsnyje 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Deklaracijos vieta ir data: [5]

Asmens tapatybės duomenys ir parašas asmens, įgalioto sudaryti šią deklaraciją: [6]

Vardas ir pavardė asmens, kuris įgaliotas sudaryti šį techninį failą:

Benedikt von Riedesel
Generalinis direktorius, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Vokietija)
bvonriedesel@macdon.com

LV

Mēs, [1]

Deklarējam, ka produkts:

Mašīnas tips: [2]

Nosaukums un modelis: [3]

Sērijas numurs(-i): [4]

Atbilst visām būtiskajām Direktīvas 2006/42/EK prasībām.

Piemēroti šādi saskaņotie standarti , kā minēts 7. panta 2. punktā:

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Deklarācijas parakstīšanas vieta un datums: [5]

Tās personas vārds, uzvārds un paraksts, kas ir pilnvarota sagatavot šo deklarāciju: [6]

Tās personas vārds, uzvārds un adrese, kas ir pilnvarota sastādīt tehnisko dokumentāciju:

Benedikts fon Rīdīzels
Ģenerāldirektors, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Vācija)
bvonriedesel@macdon.com

NL

Wij, [1]

Verklaren dat het product:

Machinetype: [2]

Naam en model: [3]

Serienummer(s): [4]

voldoet aan alle relevante bepalingen van de Richtlijn 2006/42/EC.

Geharmoniseerde normen toegepast, zoals vermeld in Artikel 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Plaats en datum van verklaring: [5]

Naam en handtekening van de bevoegde persoon om de verklaring op te stellen: [6]

Naam en adres van de geautoriseerde persoon om het technisch dossier samen te stellen:

Benedikt von Riedesel
Algemeen directeur, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Duitsland)
bvonriedesel@macdon.com

PO

My niżej podpisani, [1]

Oświadczamy, że produkt:

Typ urządzenia: [2]

Nazwa i model: [3]

Numer seryjny/numery seryjne: [4]

spełnia wszystkie odpowiednie przepisy dyrektywy 2006/42/WE.

Zastosowaliśmy następujące (zharmonizowane) normy zgodnie z artykułem 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Data i miejsce oświadczenia: [5]

Imię i nazwisko oraz podpis osoby upoważnionej do przygotowania deklaracji: [6]

Imię i nazwisko oraz adres osoby upoważnionej do przygotowania dokumentacji technicznej:

Benedikt von Riedesel
Dyrektor generalny, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Niemcy)
bvonriedesel@macdon.com

PT

Nós, [1]

Declaramos, que o produto:

Tipo de máquina: [2]

Nome e Modelo: [3]

Número(s) de Série: [4]

cumpre todas as disposições relevantes da Directiva 2006/42/CE.

Normas harmonizadas aplicadas, conforme referido no Artigo 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Local e data da declaração: [5]

Identidade e assinatura da pessoa autorizada a elaborar a declaração: [6]

Nome e endereço da pessoa autorizada a compilar o ficheiro técnico:

Benedikt von Riedesel
Gerente Geral, MacDon Europa Ltda.
Hagenauer Straße 59
65203 Wiesbaden (Alemanha)
bvonriedesel@macdon.com

RO

Noi, [1]

Declarăm, că următorul produs:

Tipul mașinii: [2]

Denumirea și modelul: [3]

Număr (numere) serie: [4]

corespunde tuturor dispozițiilor esențiale ale directivei 2006/42/EC.

Au fost aplicate următoarele standarde armonizate conform articolului 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Data și locul declarației: [5]

Identitatea și semnătura persoanei împuternicite pentru întocmirea declarației: [6]

Numele și semnătura persoanei autorizate pentru întocmirea cărții tehnice:

Benedikt von Riedesel
Manager General, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Germania)
bvonriedesel@macdon.com

SR

Mi, [1]

Izjavljujemo da proizvod

Tip mašine: [2]

Naziv i model: [3]

Serijski broj(evi): [4]

Ispunjava sve relevantne odredbe direktive 2006/42/EC.

Korišæeni su usklađeni standardi kao što je navedeno u èlanu 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Datum i mesto izdavanja deklaracije: [5]

Identitet i potpis lica ovlašæenog za sastavljanje deklaracije: [6]

Ime i adresa osobe ovlašæene za sastavljanje tehnièke datoteke:

Benedikt von Riedesel
Generalni direktor, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Nemačka)
bvonriedesel@macdon.com

SV

Vi, [1]

Intygar att produkten:

Maskintyp: [2]

Namn och modell: [3]

Serienummer: [4]

uppfyller alla relevanta villkor i direktivet 2006/42/EG.

Harmonierade standarder används, såsom anges i artikel 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Plats och datum för intyget: [5]

Identitet och signatur för person med befogenhet att upprätta intyget: [6]

Namn och adress för person behörig att upprätta den tekniska dokumentationen:

Benedikt von Riedesel
Administrativ chef, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Tyskland)
bvonriedesel@macdon.com

SL

Mi, [1]

izjavljamo, da izdelek:

Vrsta stroja: [2]

Ime in model: [3]

Serijska/-e številka/-e: [4]

ustreza vsem zadevnim določbam Direktive 2006/42/ES.

Uporabljeni usklajeni standardi, kot je navedeno v členu 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Kraj in datum izjave: [5]

Istovetnost in podpis osebe, opolnomočene za pripravo izjave: [6]

Ime in naslov osebe, pooblaščene za pripravo tehnične datoteke:

Benedikt von Riedesel
Generalni direktor, MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Nemčija)
bvonriedesel@macdon.com

SK

My, [1]

týmto prehlasujeme, že tento výrobok:

Typ zariadenia: [2]

Názov a model: [3]

Výrobné číslo: [4]

spĺňa príslušné ustanovenia a základné požiadavky smernice č. 2006/42/ES.

Použité harmonizované normy, ktoré sa uvádzajú v Článku č. 7(2):

EN ISO 4254-1:2013

EN ISO 4254-7:2009

Miesto a dátum prehlásenia: [5]

Meno a podpis osoby oprávnenej vypracovať toto prehlásenie: [6]

Meno a adresa osoby oprávnenej zostaviť technický súbor:

Benedikt von Riedesel
Generálny riaditeľ MacDon Europe GmbH
Hagenauer Straße 59
65203 Wiesbaden (Nemecko)
bvonriedesel@macdon.com

1029881

List of Revisions

The following list provides an account of major changes from the previous version of this document.

Section	Summary of Change	Internal Use Only
Introduction, page i	Added statement to NOTE: • This instruction is available in English only and can be downloaded from our Dealer-only site.	Tech Pubs
• *EC Declaration of Conformity—Windrower Lift Sling, page ii* • *EC Declaration of Conformity—Windrower Assembly Supports, page iv*	Added new EC Declaration of Conformity documents.	Tech Pubs
1.1 Signal Words, page 1	Added IMPORTANT and NOTE.	Tech Pubs
1.7 Safety Signs, page 9 • Figure *1.12, page 9*	Changed picture to black and white.	Tech Pubs
2.2.1 Moving to Assembly Area – Crane Method, page 12 • Figure *2.2, page 12*	Removed references to part numbers of lift sling decals.	ECN 56058 Tech Pubs
2.2.1 Moving to Assembly Area – Crane Method, page 12 • Step *4, page 14*	Change the block size to a single value of 152 mm (6 in.) instead of a range of 127–152 mm (5–6 in.)	Tech Pubs
2.2.2 Moving to Assembly Area – Forklift Method, page 15 • Step *3, page 16*	Change the block size to a single value of 152 mm (6 in.) instead of a range of 127–152 mm (5–6 in.)	Tech Pubs
2.5 Removing Platforms, page 23 • Step *2, page 23*	Revised step and picture to identify the slings and chain.	Tech Pubs
3.2.1 Lifting Windrower onto Stand – Crane Method, page 32 • Figure *3.3, page 32*	Removed references to part numbers of lift sling decals.	ECN 56058 Tech Pubs
3.6 Installing Hydraulics, page 44	Replaced most of the steps and pictures. Added information about the following: • Wheel leg electrical harness connections.	Technical Support
3.7 Removing Battery Shipping Shield, page 52 • Step *5, page 52*	Revised step to refer to the bracket.	Tech Pubs
3.11 Removing Protective Covering from Exhaust Stack, page 60	Replaced the topic “Installing Exhaust Stack” with “Removing Protective Covering from Exhaust Stack” because the exhaust stack remains installed during shipping.	Tech Pubs
3.12 Installing Pre-cleaner, page 61	Removed the following WARNING **ONLY** because the engine is already off at this point in the manual:	Tech Pubs

Section	Summary of Change	Internal Use Only
	• To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason. Added the procedure and pictures for opening and closing the hood.	
3.12.1 Adjusting Pre-cleaner, page 63	Added the procedure, CAUTIONS, and pictures for opening and closing the right platform.	Tech Pubs
3.17.1 Lubrication Procedure, page 71 • Step *1, page 71*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
3.19.1 Recording Serial Numbers, page 78 • Step *1, page 78* • Figure *3.102, page 78*	• Combined two steps into one. • Changed picture to grayscale.	Tech Pubs
3.19.2 Checking Tire Pressures, page 78 • Table *3.1, page 78*	Revised tire pressure information: • Corrected pressures for bar and turf tires. • Tire list now includes two types of bar and turf tires.	Tech Pubs
3.19.3 Adding Tire Ballast, page 79 • Table *3.2, page 79*	Added the word "maximum" to the table title.	Tech Pubs
3.19.4 Checking Engine Air Intake, page 80	Removed the following WARNING **ONLY** because the engine is already off at this point in the manual: • To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.	Tech Pubs
3.19.5 Checking Hydraulic Oil Level, page 81	Removed the following WARNING **ONLY** because the engine is already off at this point in the manual: • To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.	Tech Pubs
3.19.8 Checking Gearbox Lubricant Level, page 83	Removed the following WARNING **ONLY** because the engine is already off at this point in the manual: • To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from	Tech Pubs

Section	Summary of Change	Internal Use Only
	the ignition before leaving the operator's seat for any reason.	
3.19.11 Replacing the Diesel Exhaust Fluid, page 84	Changed the title from "Draining and Refilling the Diesel Exhaust Fluid Tank" to "Replacing the Diesel Exhaust Fluid." Removed the following WARNING **ONLY** because the engine is already off at this point in the manual: • To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.	Tech Pubs
3.19.13 Priming Hydraulic System, page 89 • Figure *3.129, page 92* • Step *14, page 92* • Step *15, page 92* • Figure *3.130, page 92* • Step *17, page 92*	Revised steps and added new pictures to include the model year 2020 fuse panel.	ECN 58157
3.19.13 Priming Hydraulic System, page 89 • Refer to the IMPORTANT below Step *16, page 92*	Changed the step to an IMPORTANT.	Product Support
3.19.14 Checking and Adding Wheel Drive Lubricant, page 93 • Step *5, page 93*	Revised step for clarity and corrected the cross reference.	Tech Pubs
3.19.15 Checking Traction Drive, page 93	Added NOTE: • One person can perform this task.	Tech Pubs
3.20.1 Removing Windrower from Factory Stand, page 95 • Step *2, page 95*	Revised step and picture to show all lift lock mechanisms.	Tech Pubs
3.20.1 Removing Windrower from Factory Stand, page 95 • Step *3, page 95*	Added CAUTION: • Check to be sure all bystanders have cleared the area.	Tech Pubs
4.2.1 Setting the Cab Display Language, page 99 • Step *5, page 100*	Revised NOTE.	Tech Pubs
4.3.2 Setting the Knife Overload Speed, page 105	Added topic introduction.	Tech Pubs
4.3.3 Setting the Rotary Disc Overload Speed, page 107	Added topic introduction.	Tech Pubs
4.3.4 Setting the Hydraulic Overload Pressure, page 108	Added topic introduction.	Tech Pubs

Section	Summary of Change	Internal Use Only
4.3.7 Setting the Auto Raise Height, page 110	Added topic introduction.	Tech Pubs
4.3.8 Activating the Double Windrow Attachment, page 111	Added all steps (everything except introduction was previously missing).	Tech Pubs
4.3.12 Activating the Swath Compressor, page 116 • Figure *4.41, page 116* • Figure *4.42, page 116* • Figure *4.44, page 117*	• Revised topic introduction. • Revised pictures.	Tech Pubs
4.3.16 Setting the Engine Intermediate Speed Control (ISC) RPM, page 121 • Figure *4.52, page 121*	Revised picture	Tech Pubs
4.3.17 Clearing Sub-Acres, page 122	Split first step into two steps.	Tech Pubs
4.5 Displaying Activated Cab Display Lockouts, page 132 • Figure *4.82, page 133*	Added picture.	Tech Pubs
4.7 Calibrating the Swath Compressor Sensor, page 140 • Figure *4.96, page 140* • Figure *4.97, page 140* • Figure *4.99, page 141*	Revised pictures.	Tech Pubs
4.8.1 Displaying the Windrower and Engine Error Codes, page 142 • Figure *4.103, page 142*	Revised picture and callouts in associated steps.	Tech Pubs
5 Performing Operational Checks, page 165	Added introductory statement: • Perform all procedures in this chapter in the order in which they are listed.	Tech Pubs
5.7 Checking Exterior Lights, page 173	Added procedure for swiveling the operator's seat into cab-forward mode.	Tech Pubs
5.7 Checking Exterior Lights, page 173 • Step *5, page 174*	Revised step and associated picture to include rear floodlights.	Product Support
5.10 Checking Interior Lights, page 179 • Step *1, page 179*	Changed picture.	Tech Pubs
5.11 Checking Air Conditioning and Heater, page 180 • Step *4, page 180*	Added step.	Tech Pubs
5.13 Performing Final Steps, page 182 • Step *3, page 182*	Revised step.	Tech Pubs
5.13 Performing Final Steps, page 182	Removed decal part number from caption because it is not serviceable part.	ECN 49870

Section	Summary of Change	Internal Use Only
• Figure *5.21, page 182*		
6.1 Attaching Header Boots, page 183 • Figure *6.1, page 183*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047
6.2.1 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link with Optional Self-Alignment, page 184 • Step *1, page 184*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
6.2.1 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link with Optional Self-Alignment, page 184 • Step *8, page 186*	Changed picture to hide old safety prop decal.	ECN 58047
6.2.1 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link with Optional Self-Alignment, page 184 • Step *12, page 187* • Step *15, page 188* • Step *16, page 188*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047
6.2.2 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link without Self-Alignment, page 190 • Step *21, page 194*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
6.2.2 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link without Self-Alignment, page 190 • Step *9, page 192*	• Corrected callouts in step. • Changed picture to hide old safety prop decal.	Tech Pubs ECN 58047
6.2.2 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link without Self-Alignment, page 190 • Step *14, page 193* • Step *17, page 194* • Step *18, page 194*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047
6.3.1 Attaching an A Series Auger Header – Hydraulic Center-Link with Optional Self-Alignment, page 196 • Step *1, page 196*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
6.3.1 Attaching an A Series Auger Header – Hydraulic Center-Link with Optional Self-Alignment, page 196 • Refer to the IMPORTANT on this page: *NA, page 197* • Step *12, page 199*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047

Section	Summary of Change	Internal Use Only
• Step *17, page 200* • Step *18, page 201*		
6.3.1 Attaching an A Series Auger Header – Hydraulic Center-Link with Optional Self-Alignment, page 196 • Step *7, page 198*	Changed picture to hide old safety prop decal.	ECN 58047
6.3.2 Attaching an A Series Auger Header – Hydraulic Center-Link without Self-Alignment, page 202 • Step *1, page 202*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
6.3.2 Attaching an A Series Auger Header – Hydraulic Center-Link without Self-Alignment, page 202 • Refer to the IMPORTANT on this page: *NA, page 202* • Step *13, page 205* • Step *18, page 206* • Step *19, page 206*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047
6.3.2 Attaching an A Series Auger Header – Hydraulic Center-Link without Self-Alignment, page 202 • Step *8, page 204*	• Corrected callouts in step. • Changed picture to hide old safety prop decal.	Tech Pubs ECN 58047
6.4 Attaching an R Series or R1 Series Rotary Disc Header, page 208	Added R116 Rotary Disc Header compatibility.	Product Sheet
6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208	Changed the following statement to a WARNING: • To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.	Tech Pubs
6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208 • Step *1, page 208*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208 • Step *3, page 209* • Step *13, page 212* • Step *15, page 213* • Step *16, page 213*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047

Section	Summary of Change	Internal Use Only
6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208 • Step *8, page 211*	Changed picture to hide old safety prop decal.	ECN 58047
6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208 • Step *4, page 209*	Added MPORTANT: • Before starting engine, remove protective cover from exhaust stack.	Tech Pubs
6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208 • Step *5, page 210*	Moved IMPORTANT: • If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.	Tech Pubs
6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment, page 215 • Step *1, page 215*	Added step: • Shut down the engine, and remove the key from the ignition.	Tech Pubs
6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment, page 215 • Step *3, page 215*	• Revised step. • Updated the cylinder safety prop decal to the model year 2020 decal.	Tech Pubs ECN 58047
6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment, page 215 • Step *4, page 215*	Added IMPORTANT: • Before starting engine, remove protective cover from exhaust stack.	Tech Pubs
6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment, page 215 • Step *9, page 217*	• Corrected callouts in step. • Changed picture to hide old safety prop decal.	Tech Pubs ECN 58047
6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment, page 215 • Step *14, page 218* • Step *16, page 219* • Step *17, page 219*	Updated the cylinder safety prop decal to the model year 2020 decal.	ECN 58047
7.3 Definitions, page 233	• Added “A30S” to the definition for “A Series header.” • Added the term “R1 SP Series.”	Tech Pubs

Section	Summary of Change	Internal Use Only
7.4 Lubricants, Fluids, and System Capacities, page 236 • Footnote [20]	Updated compressor part number from MD #203013 to MD #183515.	ECN 51007
Predelivery Checklist, page 239	Changed the name of the task from “Drain and Diesel Exhaust Fluid (DEF) tank and refill with fresh DEF” to “Replace the diesel exhaust fluid (DEF).”	Tech Pubs

Chapter 1: Safety

1.1 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information. Signal words are selected using the following guidelines:

DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

IMPORTANT:

Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

NOTE:

Provides additional information or advice.

1.2 General Safety

CAUTION

The following general farm safety precautions should be part of your operating procedure for all types of machinery.

Protect yourself.

- When assembling, operating, and servicing machinery, wear all protective clothing and personal safety devices that could be necessary for job at hand. Do **NOT** take chances. You may need the following:
  - Hard hat
  - Protective footwear with slip-resistant soles
  - Protective glasses or goggles
  - Heavy gloves
  - Wet weather gear
  - Respirator or filter mask

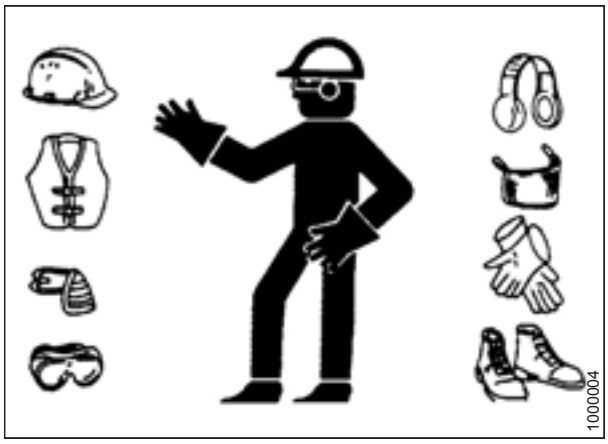


Figure 1.1: Safety Equipment

- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.

Figure 1.2: Safety Equipment

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. Be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when the operator is tired or in a hurry. Take time to consider safest way. **NEVER** ignore warning signs of fatigue.

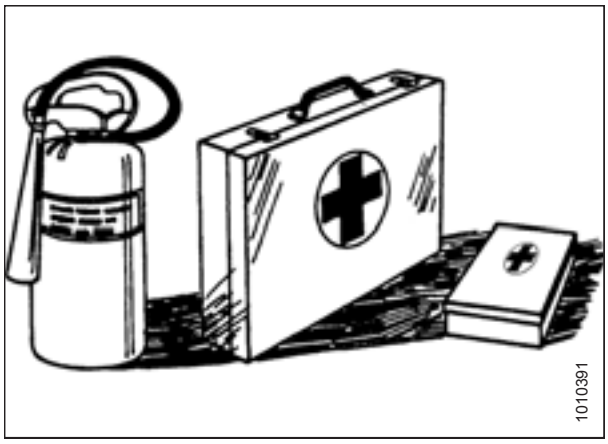


Figure 1.3: Safety Equipment

- Wear close-fitting clothing and cover long hair. **NEVER** wear dangling items such as scarves or bracelets.
- Keep all shields in place. **NEVER** alter or remove safety equipment. Make sure driveline guards can rotate independently of shaft and can telescope freely.
- Use only service and repair parts made or approved by equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.

Figure 1.4: Safety around Equipment

- Keep hands, feet, clothing, and hair away from moving parts. **NEVER** attempt to clear obstructions or objects from a machine while engine is running.
- Do **NOT** modify machine. Unauthorized modifications may impair machine function and/or safety. It may also shorten machine's life.
- To avoid injury or death from unexpected startup of machine, **ALWAYS** stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

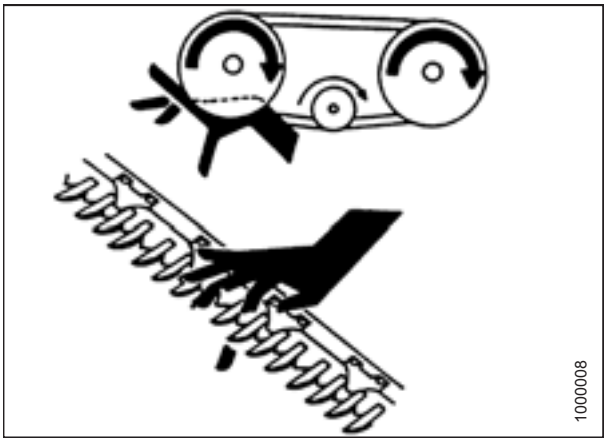


Figure 1.5: Safety around Equipment

- Keep service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.
- Keep work area well lit.
- Keep machinery clean. Straw and chaff on a hot engine is a fire hazard. Do **NOT** allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before storage.
- **NEVER** use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
- When storing machinery, cover sharp or extending components to prevent injury from accidental contact.

Figure 1.6: Safety around Equipment

1.3 Tire Safety

WARNING

- **Service tires safely.**
- **A tire can explode during inflation which could cause serious injury or death.**
- **Follow proper procedures when mounting a tire on a wheel or rim. Failure to do so can produce an explosion that may result in serious injury or death.**

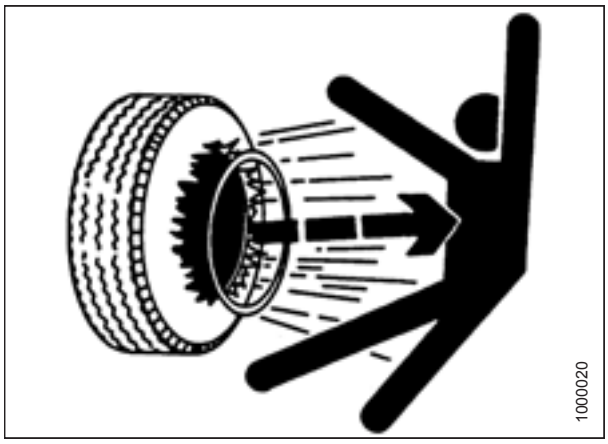


Figure 1.7: Overinflated Tire

WARNING

- **Do NOT stand over tire. Use a clip-on chuck and extension hose.**
- **Do NOT exceed maximum inflation pressure indicated on tire label.**
- **Replace tires that have defects.**
- **Replace wheel rims that are cracked, worn, or severely rusted.**
- **Never weld a wheel rim.**
- **Never use force on an inflated or partially inflated tire.**
- **Make sure the tire is correctly seated before inflating to operating pressure.**

Figure 1.8: Safely Inflating Tire

- **If the tire is not correctly positioned on the rim or is overinflated, the tire bead can loosen on one side causing air to escape at high speed and with great force. An air leak of this nature can thrust the tire in any direction, endangering anyone in area.**
- **Make sure all air is removed from the tire before removing the tire from the rim.**
- **Do NOT remove, install, or repair a tire on a rim unless you have proper equipment and experience to perform job. Take the tire and rim to a qualified tire repair shop.**

1.4 Battery Safety

WARNING

- **Keep all sparks and flames away from batteries; an explosive gas is given off by electrolyte.**
- **Ventilate when charging in enclosed space.**

Figure 1.9: Safety around Batteries

WARNING

- **Wear safety glasses when working near batteries.**
- **Do NOT tip batteries more than 45° to avoid electrolyte loss.**
- **Battery electrolyte causes severe burns. Avoid contact with skin, eyes, or clothing.**
- **Electrolyte splashed into eyes is extremely dangerous. Should this occur, force eye open, and flood with cool, clean water for 5 minutes. Call a doctor immediately.**
- **If electrolyte is spilled or splashed on clothing or body, neutralize it immediately with a solution of baking soda and water, then rinse with clear water.**

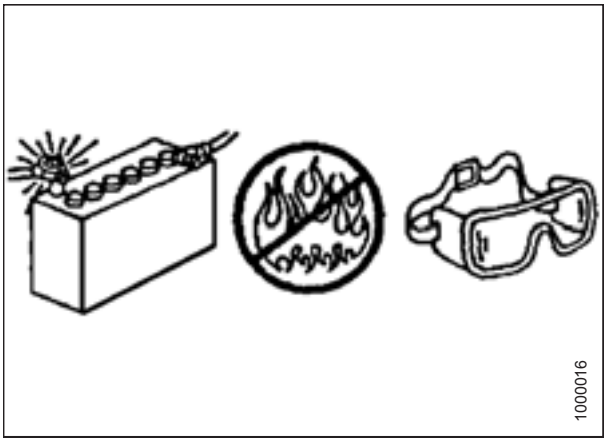


Figure 1.10: Safety around Batteries

WARNING

- **To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of electrical system.**
- **Do NOT operate engine with alternator or battery disconnected. With battery cables disconnected and engine running, a high voltage can be built up if terminals touch frame. Anyone touching frame under these conditions would be severely shocked.**
- **When working around storage batteries, remember that all of the exposed metal parts are live. Never lay a metal object across terminals because a spark or short circuit will result.**
- **Keep batteries out of reach of children.**

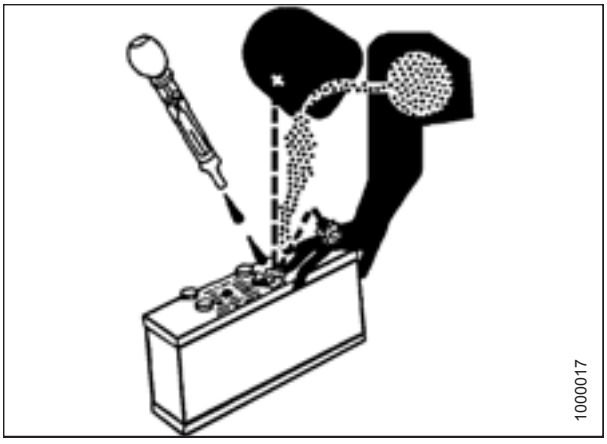


Figure 1.11: Safety around Batteries

1.5 Welding Precautions

High currents and voltage spikes associated with welding can cause damage to electronic components. Before welding on any part of the windrower or an attached header, disconnect all electronic module harness connections as well as battery cables. For instructions, refer to the windrower technical manual.

1.6 Engine Safety

WARNING

Do NOT use aerosol starting aids such as ether. Such use could result in an explosion and personal injury.

CAUTION

- **On initial start-up of a new, serviced, or repaired engine, always be ready to stop the engine to prevent an overspeed. Do this by shutting off the air and/or fuel supply to the engine.**
- **Do NOT bypass or disable automatic shutoff circuits. The circuits help prevent personal injury, and prevent engine damage. For instructions, refer to the technical manual.**
- **Inspect the engine for potential hazards.**
- **Before starting the engine, ensure no one is on, underneath, or close to the engine. Ensure that people clear the area.**
- **All protective guards and covers must be installed if the engine must be started to perform service procedures.**
- **To help prevent an accident, work around rotating parts carefully.**
- **If a warning tag is attached to the engine start switch or controls, do NOT start engine or move controls. Consult whoever attached the warning tag before starting the engine.**
- **Start engine from operator's station. Follow procedure in the Starting Engine section of the operator's manual. Knowing the correct procedure will help prevent major damage to engine components and prevent personal injury.**
- **To ensure that the jacket water heater (if equipped) and/or lubricant oil heater (if equipped) is working correctly, check the water temperature gauge and/or oil temperature gauge during heater operation.**
- **Engine exhaust contains products of combustion, which can be harmful to your health. Always start and operate the engine in a well-ventilated area. If the engine is started in an enclosed area, vent exhaust to the outside.**
- **Engine exhaust gases become very hot during operation and can burn people and common materials. Stay clear of the rear of machine and avoid exhaust gases when engine is running.**

NOTE:

The engine may not be equipped with a device for cold starting. If the engine will be operated in very cold conditions, then an additional cold-starting aid may be required.

1.6.1 High-Pressure Rail

WARNING

- **Contact with high-pressure fuel may cause fluid penetration and burn hazards. High-pressure fuel spray may cause a fire hazard. Failure to follow these instructions may cause personal injury or death.**
- **Before disconnecting fuel lines or any other components under high-pressure between the fuel pump and high-pressure common rail fuel system, confirm that the fuel pressure is relieved.**

1.6.2 Engine Electronics

WARNING

Tampering with electronic system installation or original equipment manufacturer (OEM) wiring installation can be dangerous and could result in personal injury or death and/or engine damage.

WARNING

Electrical Shock Hazard. The electronic unit injectors use DC voltage. The engine control module (ECM) sends this voltage to the electronic unit injectors. Do NOT come in contact with the harness connector for the electronic unit injectors while engine is operating. Failure to follow this instruction could result in personal injury or death.

This engine has a comprehensive, programmable engine monitoring system. The ECM has the ability to monitor engine operating conditions. If conditions exceed the allowable range, the ECM will initiate immediate action.

The engine monitoring system can initiate the following actions:

- Warning
- Derate
- Shut down

Abnormalities in the following monitored conditions can limit engine speed and/or engine power:

- Engine coolant temperature
- Engine oil pressure
- Engine speed
- Intake manifold air temperature
- Diesel exhaust fluid (DEF) system performance
- Aftertreatment system performance

1.7 Safety Signs

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or illegible.
- If original part on which a safety sign was installed is replaced, be sure the repair part displays the current safety sign.

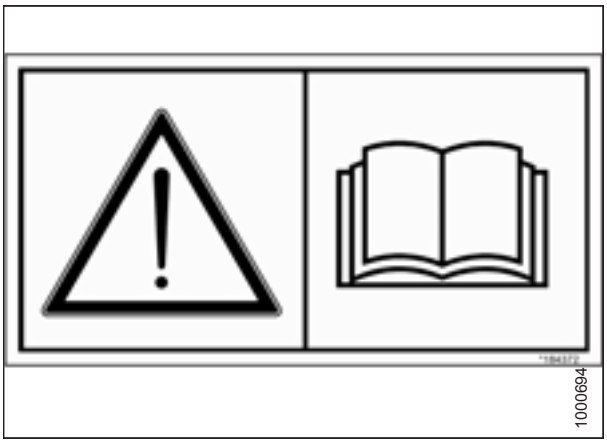


Figure 1.12: Operator's Manual Decal

Chapter 2: Unloading the Windrower

Perform all procedures in this chapter in the order in which they are listed.

2.1 Unloading Container

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

1. Move trailer into position and block trailer wheels.
2. Lower trailer storage stands.
3. Unlock and open container doors and remove all blocking.
4. Check container floor for nails or other obstructions and remove if necessary.
5. Position platform or ramp at container opening.
6. Attach chain/pull strap to slots in support channels (A).
7. Pull the windrower slowly from the container onto the platform.

Figure 2.1: Windrower Shipping Assembly

2.2 Moving to Assembly Area

The windrower can be moved to the assembly area using either a crane (refer to *2.2.1 Moving to Assembly Area – Crane Method, page 12*) or a forklift (refer to *2.2.2 Moving to Assembly Area – Forklift Method, page 15*).

2.2.1 Moving to Assembly Area – Crane Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

Equipment used for unloading must meet or exceed the requirements specified in this section. Inadequate equipment may result in chain breaking, vehicle tipping, or machine damage.

Lift Sling	
Maximum Working Load	12,884 kg (28,404 lb.)

Chain	
Type	Overhead 1/2 in. lifting quality
Minimum Working Load	3221 kg (7100 lb.)

Lifting Vehicle	
Minimum Lifting Capacity	9072 kg (20,000 lb.)

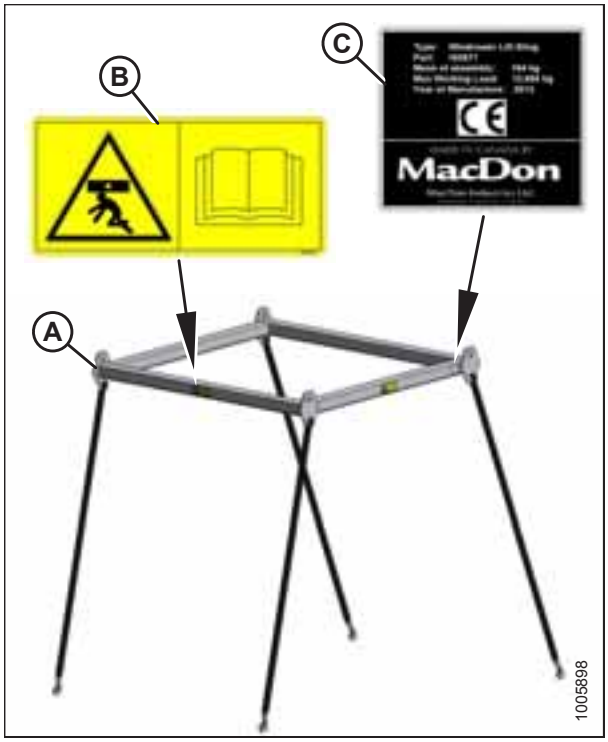


Figure 2.2: Lift Sling

A - Lift Sling
B - Decal (Four Places)
C - Decal

1. Attach chains or cables to the four lifting points on the lift sling, and connect the loop ends to the crane hook.

   IMPORTANT:

   Use cables or chains with a minimum lifting capacity of 3221 kg (7100 lb.).

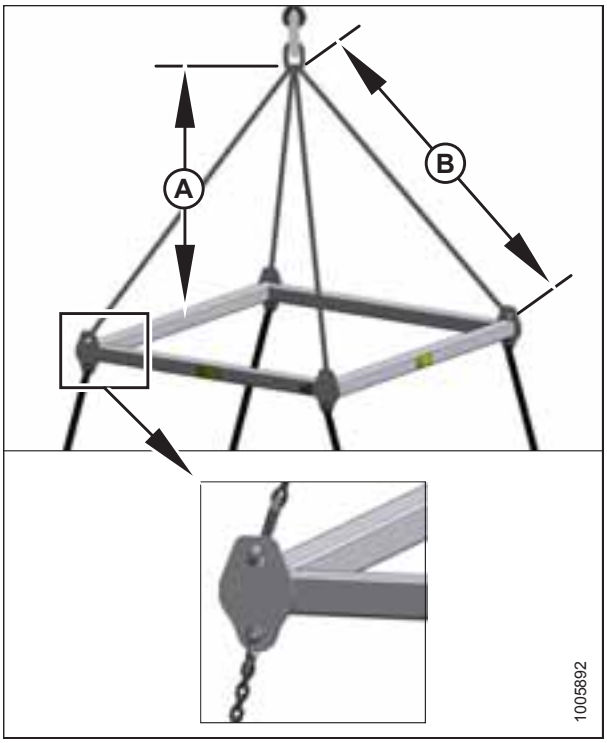


Figure 2.3: Lift Sling

A - 1500 mm (59 in.) Minimum **B - 2120 mm (83.5 in.) Typical**

2. Attach lift sling to the four designated lifting points on the windrower shipping frame.

WARNING

To avoid injury or death from a swinging or falling load, keep all bystanders clear when lifting. Equipment used for lifting must exceed the maximum requirements specified in this section.

3. Lift the windrower off the platform and move it to the setup area.

Figure 2.4: Shipping Frame Lifting Points

4. Lower assembly onto 152 mm (6 in.) blocks (A) as shown.
5. Remove chains from shipping frame.
6. Check for shipping damage and missing parts.

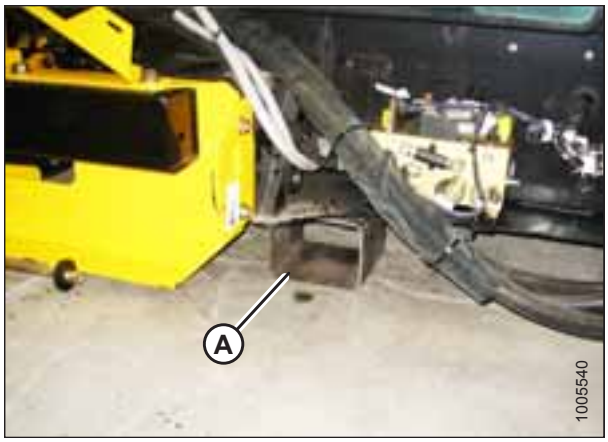


Figure 2.5: Windrower Shipping Assembly on Blocks

2.2.2 Moving to Assembly Area – Forklift Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

Equipment used for unloading must meet or exceed the requirements specified in this section. Inadequate equipment may result in chain breaking, vehicle tipping, or machine damage.

Lifting Vehicle	
Minimum Lifting Capacity[1]	9072 kg (20,000 lb.)

IMPORTANT:

Forklifts are normally rated for a load positioned 610 mm (24 in.) forwards from the back end of the forks. To obtain the forklift capacity at 1220 mm (48 in.), check with your forklift distributor.

WARNING

Be sure forks are secure before moving away from load. Stand clear when lifting.

1. Approach the windrower from the hood end and slide forks underneath the lifting framework.
2. Raise the windrower off the platform and move it to the assembly area.

Figure 2.6: Forklift Method Lifting Points

1. At 1220 mm (48 in.) from back end of forks.

3. Lower assembly onto 152 mm (6 in.) blocks (A) as shown.
4. Check for shipping damage and missing parts.

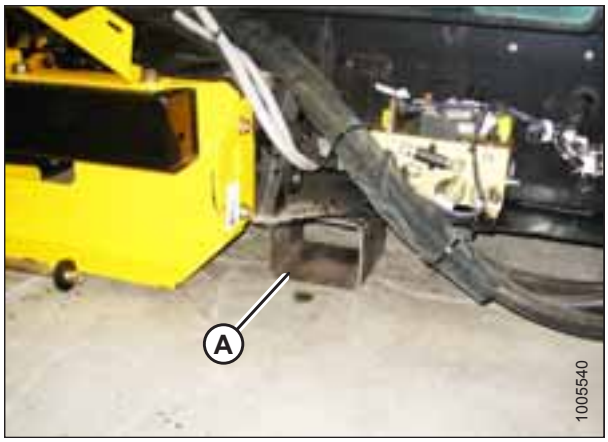


Figure 2.7: Windrower Shipping Assembly on Blocks

2.3 Removing Wheel and Step Assembly

1. Remove shipping wire (A) and the bolt securing the hose support to the shipping frame. Remove the hose support.
2. Lay hose support off to the side.

Figure 2.8: Shipping Frame

3. Remove two 3/4 x 16.5 in. bolts (A) (one per side) from the front frame beam. Retain for reinstallation.

Figure 2.9: Front Frame Beam

4. Remove the 25.4 mm (1 in.) pin (A) from the center-link.

Figure 2.10: Center-Link

5. Remove the four (two per side) carriage bolts from the rear of the wheel/step assembly.

Figure 2.11: Rear of Wheel/Step Assembly

6. Remove the cable tie (A) and shipping wire (B) securing the hose bundles to the frame.

Figure 2.12: Hose Bundles on Frame

Figure 2.13: Hose Bundles on Frame

7. Using a chain and a lifting device, pull wheel/step assembly (A) away from the shipping assembly.

Figure 2.14: Wheel/Step Shipping Assembly

8. Lift center-link (A) until it clears the wheel/step assembly frame (B).

Figure 2.15: Wheel/Step Assembly Frame

9. Install leg bolts, washers, and nuts to secure the lifting plate onto the mainframe.

Figure 2.16: Lifting Plate

2.4 Removing Drive Wheels

IMPORTANT:

To prevent damage to the hood/cab, remove the drive wheels as a pair from above the hood.

1. Remove the two bolts (A) from the front cross member over the hood.

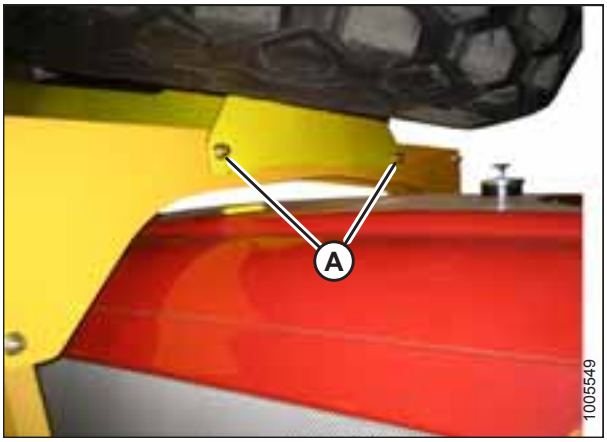


Figure 2.17: Front Cross Member on Hood

2. Remove one bolt (A) from the rear of the hood directly under the center of the drive wheel.

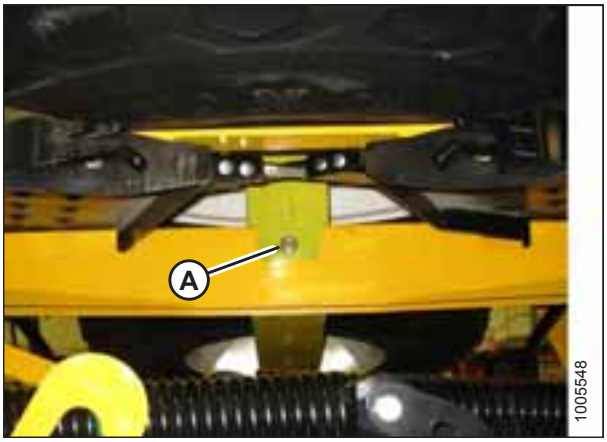


Figure 2.18: Rear of Hood

3. Attach a lifting device to the lift hooks (A) located in the center of each drive wheel.

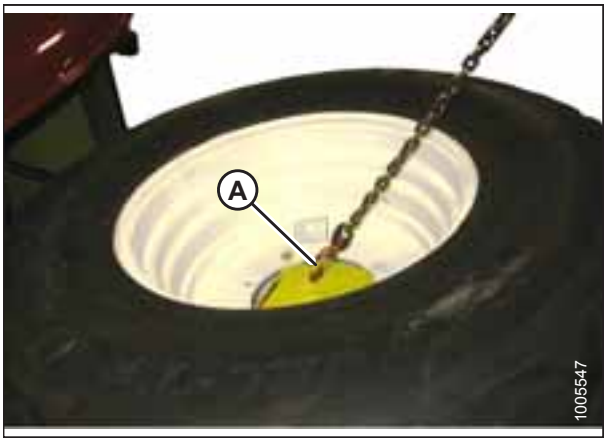


Figure 2.19: Drive Wheel

4. Carefully lift the wheels off the frame.

   IMPORTANT:

   Ensure the tires are guided away from the cab roof when lifting wheels to prevent damaging the cab. The chain on the forward wheel should be snug, and the chain on the aft wheel should be loose.

5. Set wheels aside for later installation.

Figure 2.20: Wheels on Frame

2.5 Removing Platforms

1. Remove support tube (A) on each side of the hood.

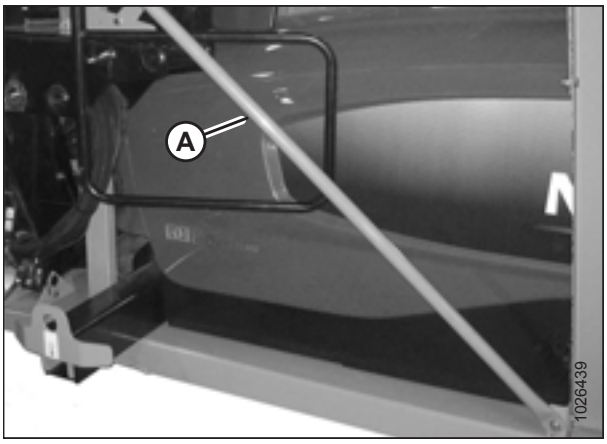


Figure 2.21: Shipping Supports

2. Attach two slings (A) and a chain (B) to the platform at the locations shown to prevent damaging the paint.
3. Attach opposite ends of slings and chain to a lifting device with a minimum lifting capacity of 2268 kg (5000 lb.) and a lift height of 4 m (13 ft.).

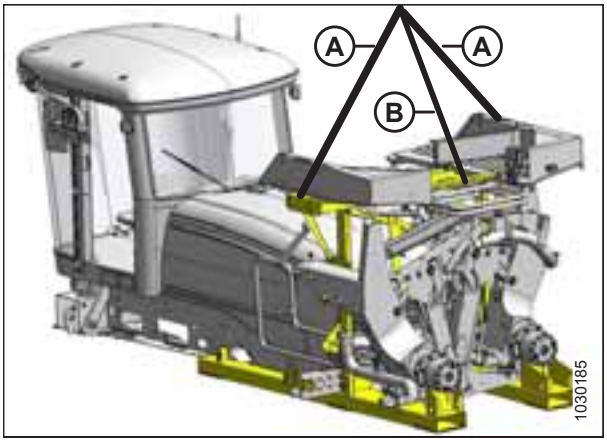


Figure 2.22: Platforms on Hood

4. Remove two 5/8 x 5 in. bolts (B) from the top of the vertical supports, and remove two 5/8 x 1 1/4 in. bolts (A) attaching the angle braces to the platforms.
5. Carefully lift the platform assembly off the frame.

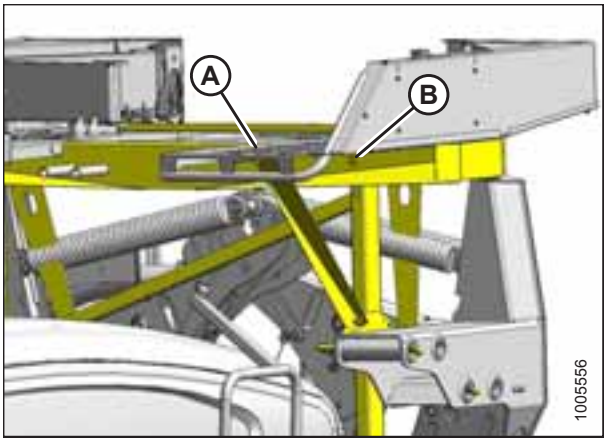


Figure 2.23: Platforms on Hood

6. Back away from the windrower, and set the platform assembly on a level surface.
7. Unhook one sling and chain.
8. Lift one end of the platform assembly so it can be inverted and laid down with the base on the floor. Use a piece of cardboard under the platform assembly to protect the paint.

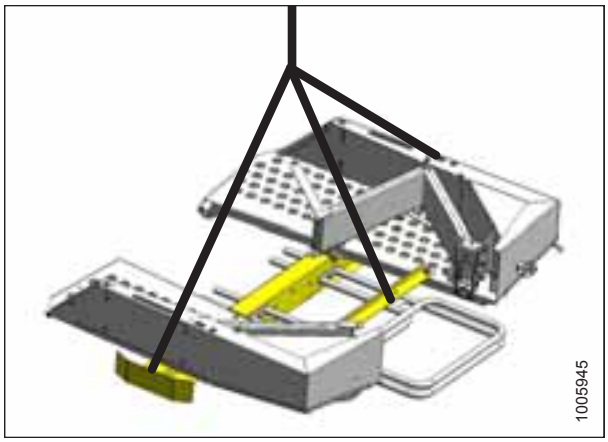


Figure 2.24: Platforms

9. Unhook the remaining sling.

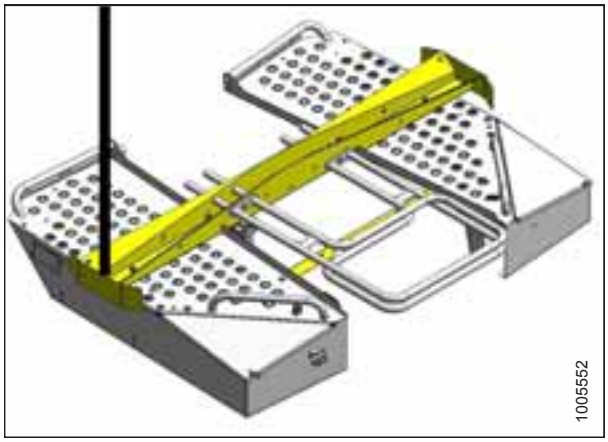


Figure 2.25: Platforms

2.6 Removing Hand Rails and Exhaust Stack

1. Cut the cable ties and move the hose bundle clear of the platform.

Figure 2.26: Hand Rails and Exhaust Stack Shipping Assembly

2. Remove shipping wire and foam from exhaust stack (A).
3. Remove nuts (B) from clamp (C), and remove the exhaust stack (A) and clamp from the shipping frame.
4. Reinstall nuts (B) onto clamp (C) and set exhaust stack (A) aside for later installation.
5. Remove the two bolts (D) securing the hand rail (E) to the shipping frame, and remove hand rail.
6. Repeat for hand rail on the opposite side.
7. Set parts aside for later installation.

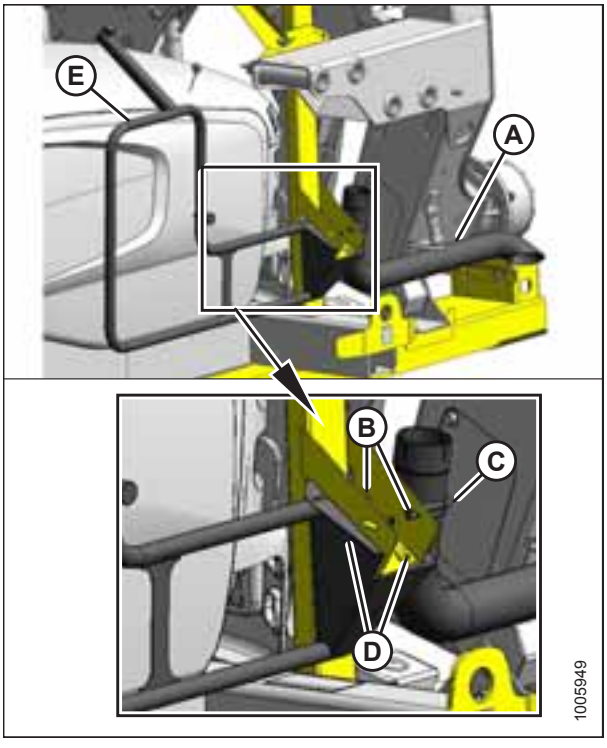


Figure 2.27: Hand Rails and Exhaust Stack Shipping Position

2.7 Removing Leg Assemblies

WARNING

Objects are heavy and difficult to maneuver. Use a proper lifting device and arrange for adequate assistance. Falling objects can result in serious personal injury.

1. Ensure lift bar (B) is attached to leg assembly as shown, and the clevis pin is installed with the head on near side.
2. Attach chain (A) to lifting bar (B) on the leg assembly, and connect the chain to a lifting device with a minimum lifting capacity of 2268 kg (5000 lb.).

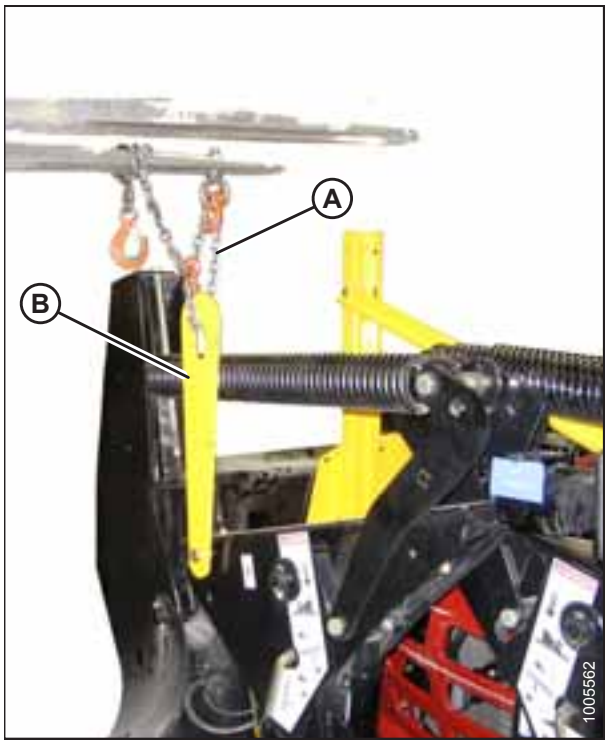


Figure 2.28: Leg Shipping Assembly

3. Remove two bolts (A) from the lower support channel.

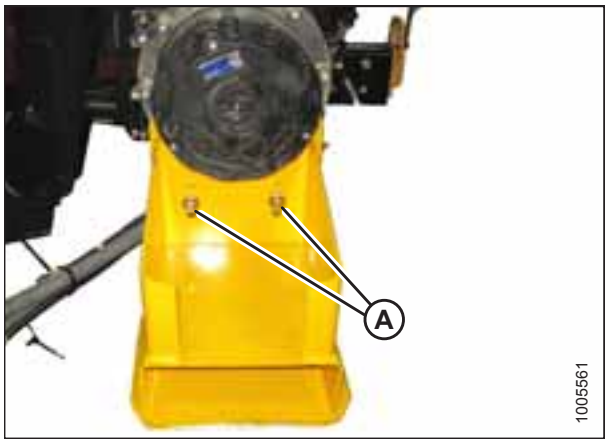


Figure 2.29: Lower Support Channel

4. Remove two bolts (A) from the shipping channel located at the top of the leg.

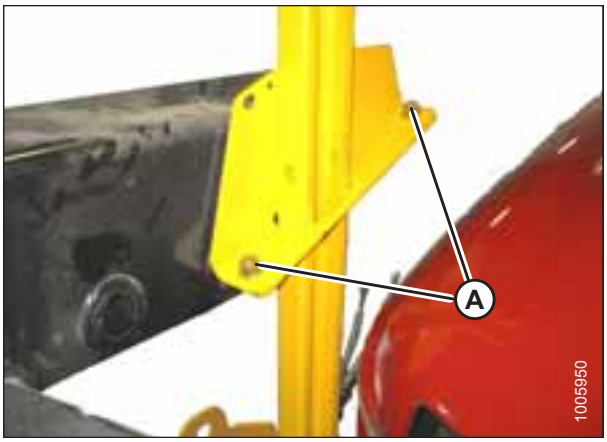


Figure 2.30: Shipping Channel on Leg

5. Remove bars (A) from the leg.
6. Insert cardboard or foam between the leg assembly and the hood to avoid damage.

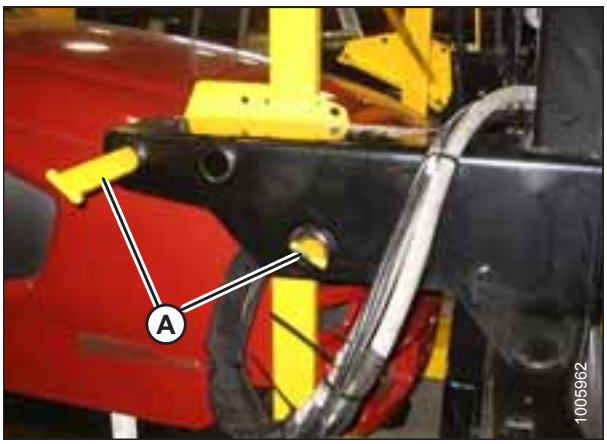


Figure 2.31: Leg Shipping Assembly

7. Lift leg assembly (A), and set on level ground in position (B) shown.
8. Repeat procedure for the second leg assembly.

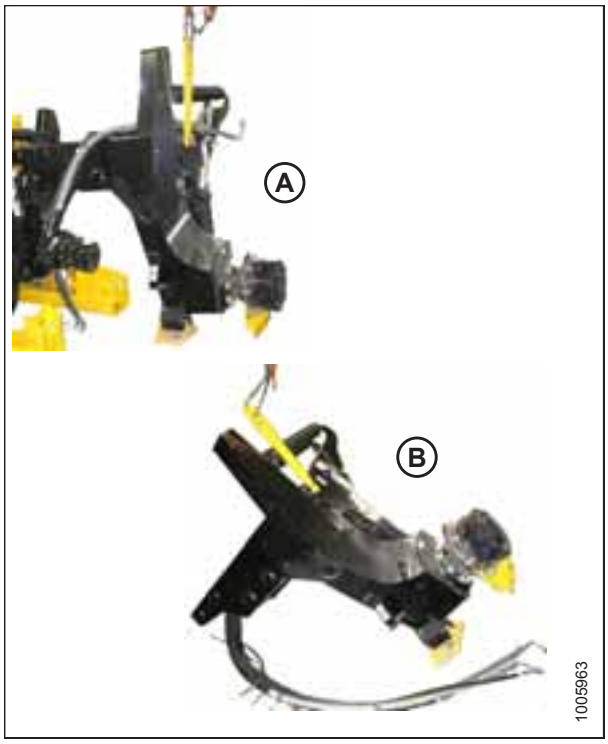


Figure 2.32: Leg Assembly Positioning

2.8 Removing Wheel and Platform Support

1. Remove cross brace (A) and upright supports (B) and (C) from the frame.

Figure 2.33: Wheel and Platform Support

2. Remove cross member (A) from above the hood.

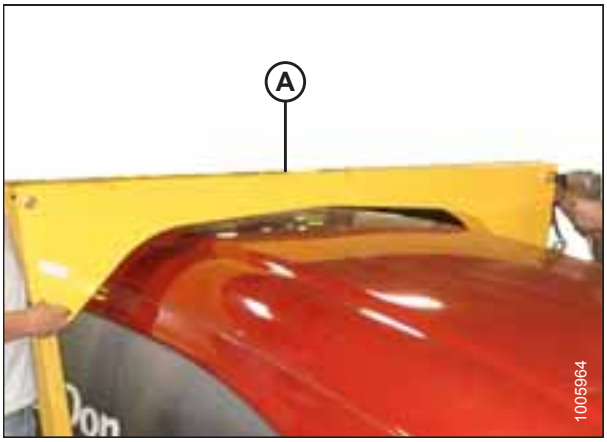


Figure 2.34: Wheel and Platform Support

3. Remove uprights (A) on both sides of the hood.

Figure 2.35: Wheel and Platform Support

Chapter 3: Assembling the Windrower

Perform all procedures in this chapter in the order in which they are listed.

3.1 Assembling Support Stand

Special stands for assembling the windrower are available from the factory. If the stands are not available, use an equivalent support system.

IMPORTANT:

The stands must be capable of supporting a 6800 kg (15,000 lb.) load.

1. Remove all shipping materials from the stands and set aside the air control valve tripod (D).
2. Arrange forward (A) and rear (B) stands on level ground so the attachment lugs on each stand face each other.
3. Attach four support tubes (C) to the stands as shown, and secure with the hardware provided with the stands.

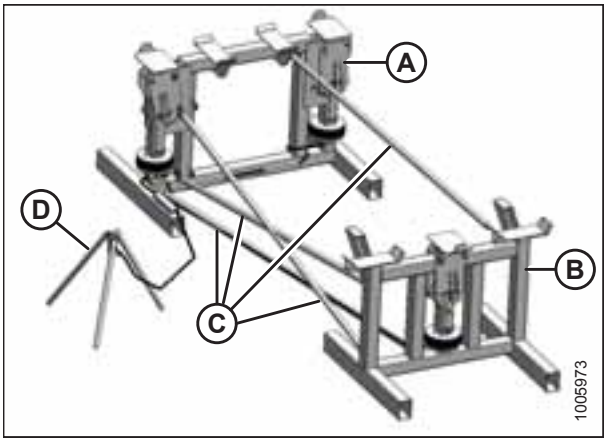


Figure 3.1: Support Stand

4. Set up the air control valve tripod, remove plug (A) from the valve, and install a 690 kPa (100 psi) air line. The stand is now operational and instructions for its use are provided throughout this manual.

WARNING

Use the stand only as instructed in this manual. Do NOT use the stand for any other purpose. Do NOT pressurize air bags beyond 690 kPa (100 psi).

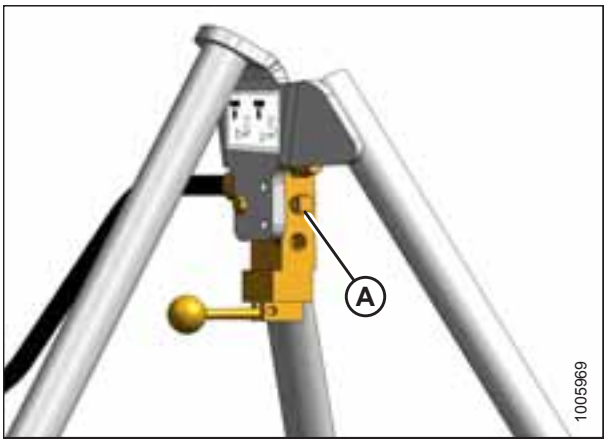


Figure 3.2: Air Control Valve Tripod

3.2 Lifting Windrower onto Stand

The windrower can be lifted onto the support stand using either a crane (refer to *3.2.1 Lifting Windrower onto Stand – Crane Method, page 32*) or a forklift (refer to *3.2.2 Lifting Windrower onto Stand – Forklift Method, page 33*).

3.2.1 Lifting Windrower onto Stand – Crane Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

Equipment used for unloading must meet or exceed the requirements specified in this section. Inadequate equipment may result in chain breaking, vehicle tipping, or machine damage.

Lift Sling	
Maximum Working Load	12,884 kg (28,404 lb.)

Chain	
Type	Overhead 1/2 in. lifting quality
Minimum Working Load	3221 kg (7100 lb.)

Crane Lifting Vehicle	
Minimum Lifting Capacity	9072 kg (20,000 lb.)

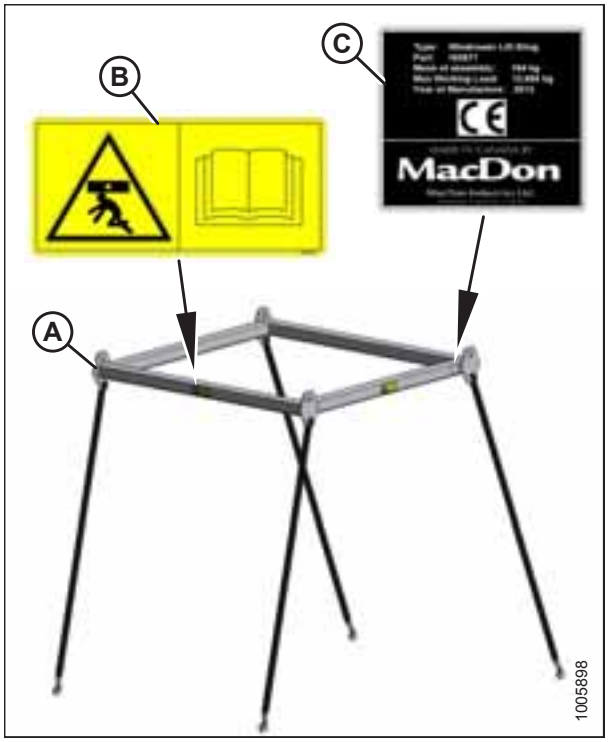


Figure 3.3: Lift Sling

A - Lift Sling
B - Decal
C - Decal

1. Attach chains or cables to the four lifting points (A) on the lift sling, and connect the loop ends to the crane hook.

   IMPORTANT:

   Use cables or chains with a minimum lifting capacity of 3221 kg (7100 lb.).

2. Attach the lift sling to the four designated lifting points on the windrower shipping frame as shown.

Figure 3.4: Shipping Frame Lifting Points

WARNING

To avoid injury or death from a swinging or falling load, keep all bystanders clear when lifting. Equipment used for lifting must exceed the maximum requirements specified in this section.

3. Lift the windrower onto the support stand (A).
4. Remove chains from the shipping frame and move lift sling (B) clear of the work area.

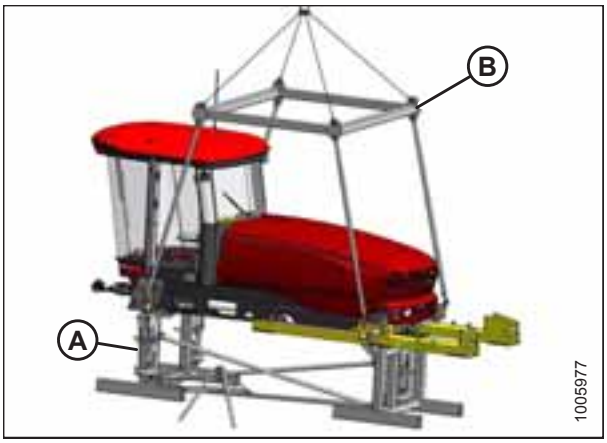


Figure 3.5: Windrower on Support Stand

3.2.2 Lifting Windrower onto Stand – Forklift Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

Equipment used for unloading must meet or exceed the requirements specified in this section. Inadequate equipment may result in chain breaking, vehicle tipping, or machine damage.

Lifting Vehicle	
Minimum Lifting Capacity[2]	9072 kg (20,000 lb.)

IMPORTANT:

Forklifts are normally rated for a load positioned 610 mm (24 in.) forwards from the back end of the forks. To obtain the forklift capacity at 1220 mm (48 in.), check with your forklift distributor.

1. Approach the windrower from the hood end and slide the forks fully into shipping support channels (A).

Figure 3.6: Forklift Method Lifting Points

2. Raise the windrower and lower it onto the support stand.
3. Back away forklift.

Figure 3.7: Windrower on Support Stand

2. At 1220 mm (48 in.) from back end of forks.

3.3 Installing Legs

1. Remove front leg bolts (A) and pins (B) and set aside for reinstallation. Remove carriage bolt (C) and remove lifting plate (D).

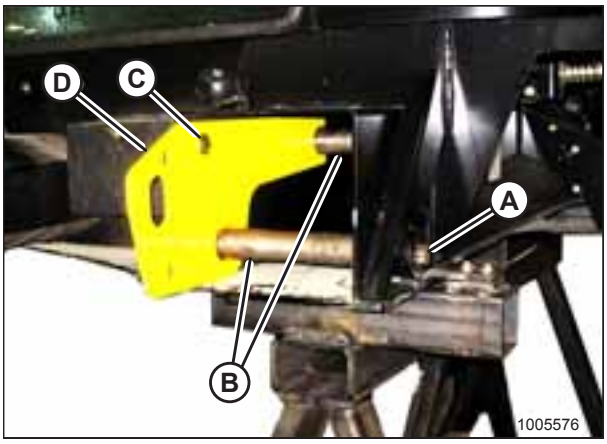


Figure 3.8: Lifting Plate

2. Attach the front leg to a lifting device using lifting bar (A).
3. Position the leg at the frame.

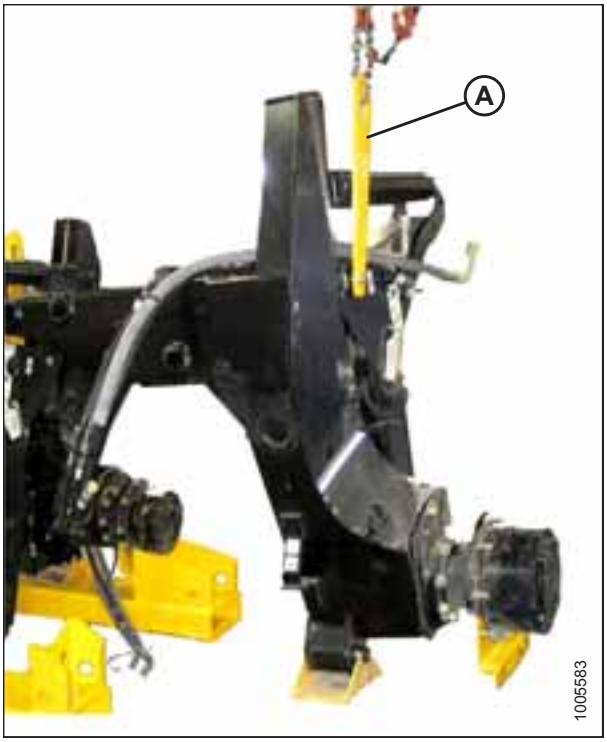


Figure 3.9: Leg Position

4. Feed hydraulic hose bundle (A) into the frame and through hole (B) at the center of the frame.

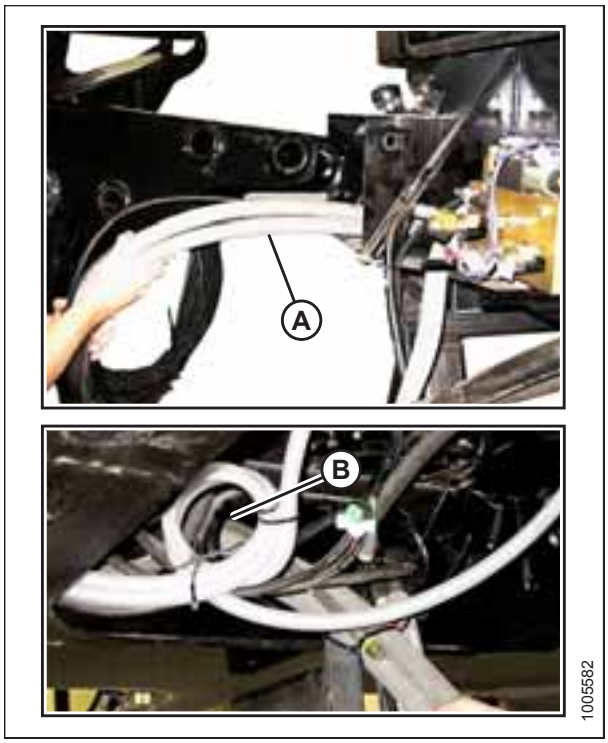


Figure 3.10: Hydraulic Hoses

5. Insert the leg into the frame and line up the holes in the frame and the leg at the first position (widest tread with one exposed hole [A]).
6. Insert pins and secure with 3/4 x 16 1/2 in. long bolts (B), washers, and nuts. Torque to 136 Nm (100 lbf·ft).
7. Repeat for opposite leg.

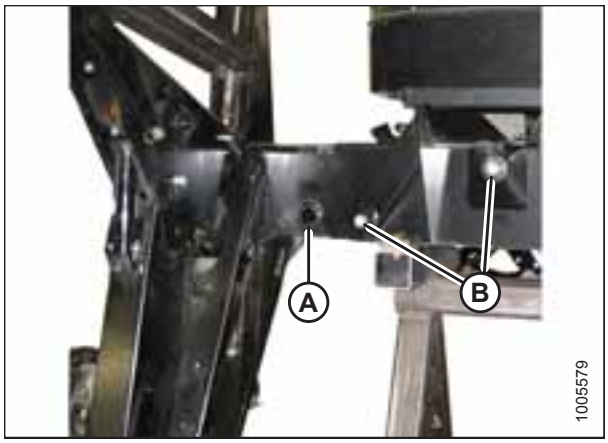


Figure 3.11: Leg Position on Frame

8. Use the lifting device to slightly lift the header lift arms, and remove lifting bars (A) from the legs.
9. Relocate spring locking pins (B) to the front of the lift arms.

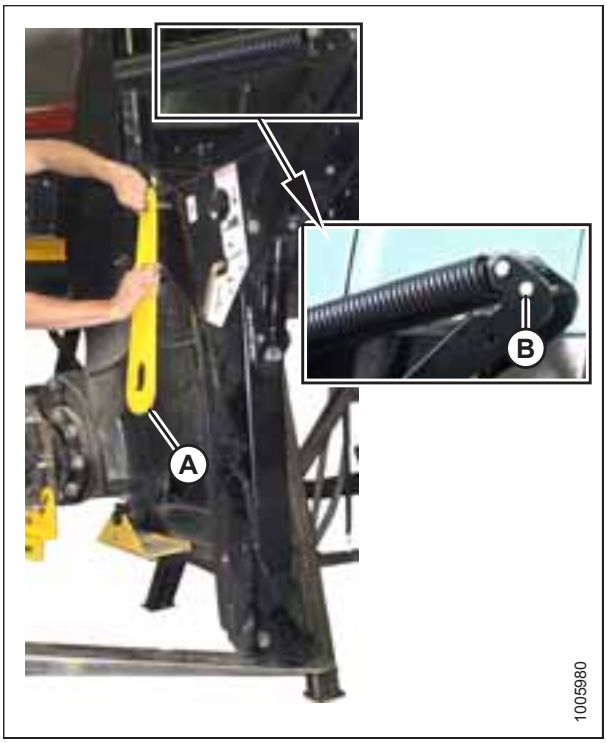


Figure 3.12: Header Lift

3.4 Installing Drive Wheels

NOTE:

If using the factory stand, proceed to Step *1, page 38*; otherwise, skip to Step *5, page 38*.

1. Ensure the three (one at rear, two at front) lift locks are activated on the lift mechanism.

   NOTE:

   The lock is activated when keeper (A) is vertical and latch (B) is free to move back and forth.

2. Pressurize the air bag system (690 kPa [100 psi] air pressure required) and raise the windrower to the maximum height (approximately 178 mm [7 in.]) above the stand.

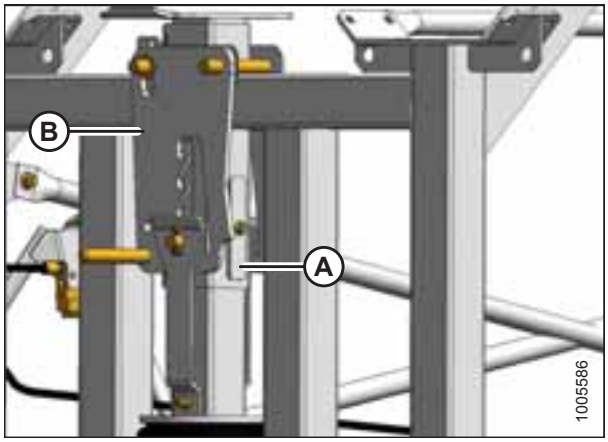


Figure 3.13: Lift Locks

3. Verify that all three locks are engaged before proceeding to the next step.

   NOTE:

   Lock is engaged when the witness hole (A) above the pin is exposed.

4. Release pressure until the locks support the weight of the windrower.

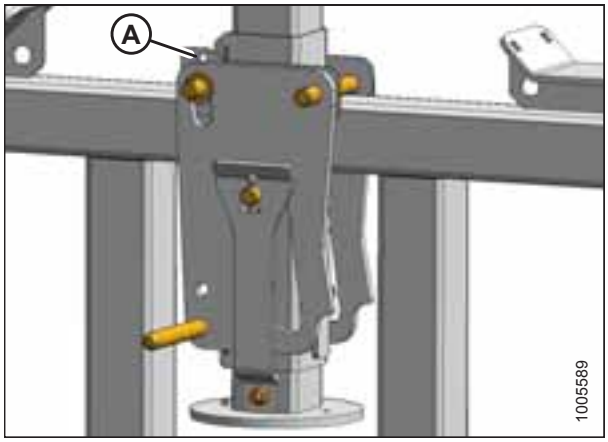


Figure 3.14: Lift Locks

5. Remove shipping support (A) from the drive wheel hub, and remove the wheel lug nuts (B).

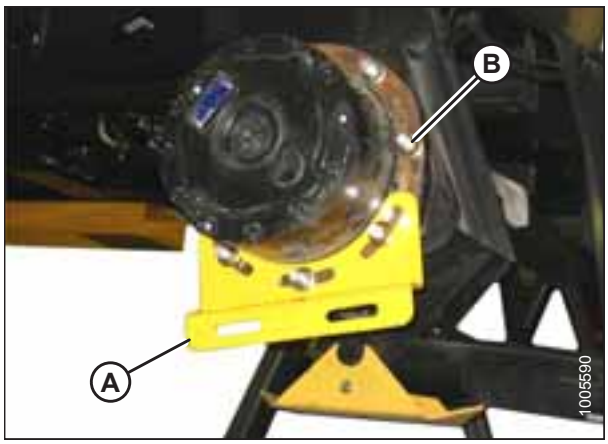


Figure 3.15: Drive Wheel Shipping Support

6. Position the wheels against the hubs so air valves (A) are on the outside and the tire tread points forward.

   NOTE:

   For turf tires (diamond tread), be sure the arrow on the sidewall points in forward rotation with windrower in cab-forward orientation.

7. Lift the wheel onto the hub using a lifting device.

8. Lower the lifting device.

Figure 3.16: Wheel Position

9. Line up the holes in the rim with the studs on the wheel drive hub and install wheel nuts (A).

   IMPORTANT:

   To avoid damaging the wheel rims and studs, tighten the nuts by hand. Do **NOT** use an impact gun, do **NOT** use lubricant or Never-Seez® compound, and do **NOT** overtighten the wheel nuts.

10. Torque drive wheel nuts to 510 Nm (375 lbf·ft) using the tightening sequence shown.

    IMPORTANT:

    Use only manufacturer-specified nuts (MD #205397).

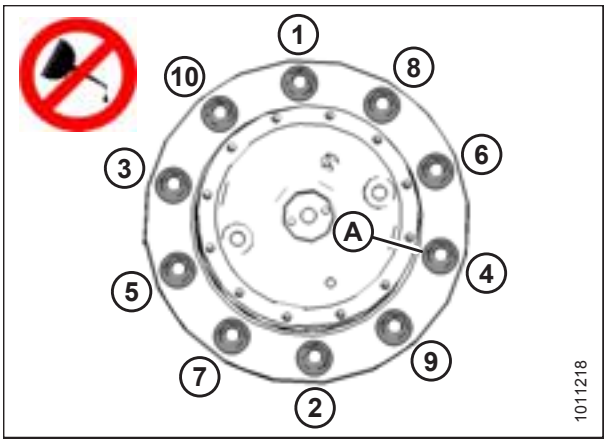


Figure 3.17: Drive Wheel Nuts

11. Repeat the torque procedure every hour until two consecutive checks confirm there is no movement of the nuts.

3.5 Installing Caster Wheels

1. Remove two guide plates (A) from the ends of the walking beam.

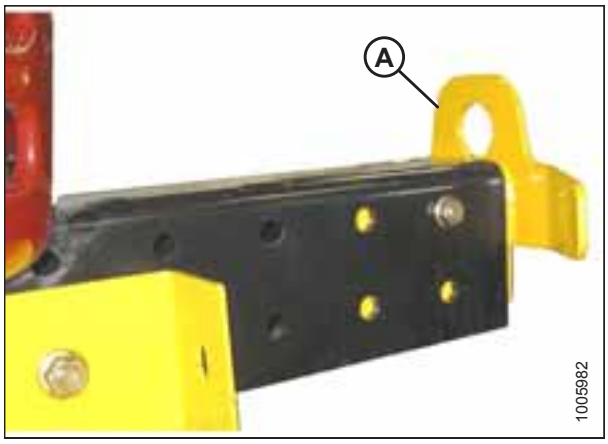


Figure 3.18: Guide Plate on Walking Beam

2. Support the shipping frame channel and remove the bolts attaching the shipping frame to the walking beam and mainframe side rail. Remove the shipping frame.

   NOTE:

   The shipping frame does not need to be removed if the air bag lifting stand is used; however, ensure the bolts are removed prior to moving the windrower off the stand.

3. Repeat for opposite shipping frame channel.

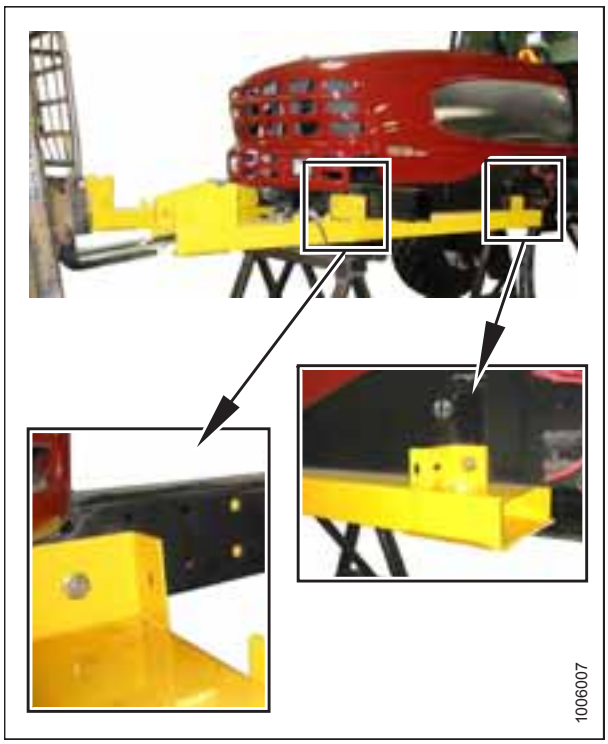


Figure 3.19: Shipping Frame

4. Remove tie bar (A) from between the caster wheels.

Figure 3.20: Caster Wheel Shipping Assembly

5. Remove two caster supports (A) from the caster wheels and frame. Retain bolts for attaching caster to walking beam.

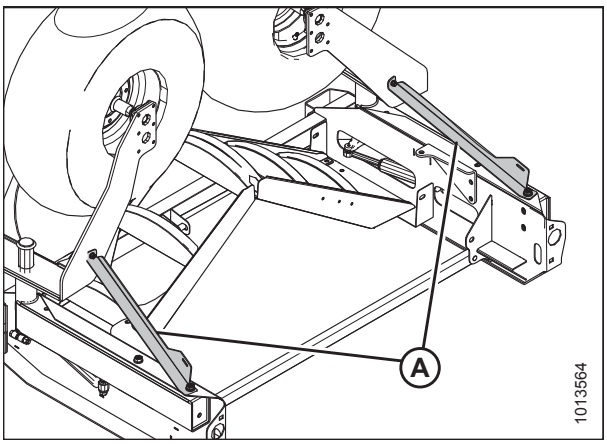


Figure 3.21: Caster Supports

6. Attach a chain to the right caster and support caster with lifting device.

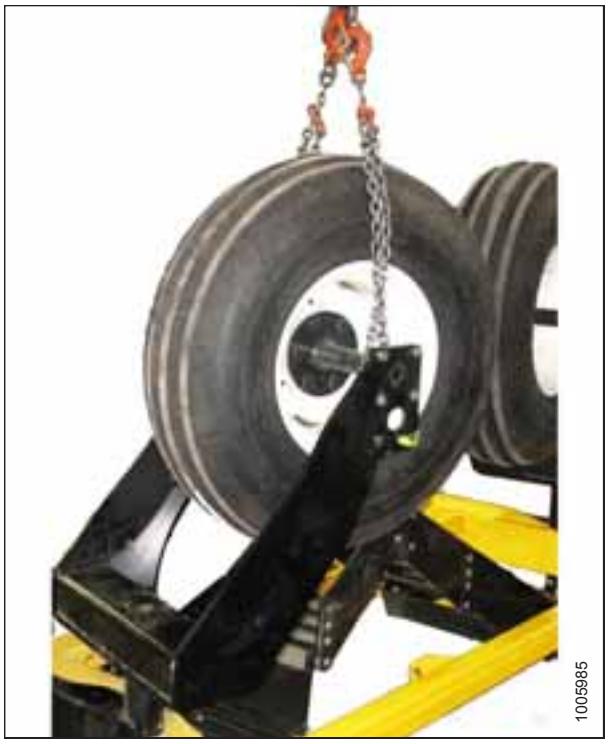


Figure 3.22: Lifting Device on Caster

7. Remove five remaining bolts (A) securing the caster to the shipping frame. Retain bolts for attaching caster to walking beam.

CAUTION

Stand clear when lifting, as caster may swing.

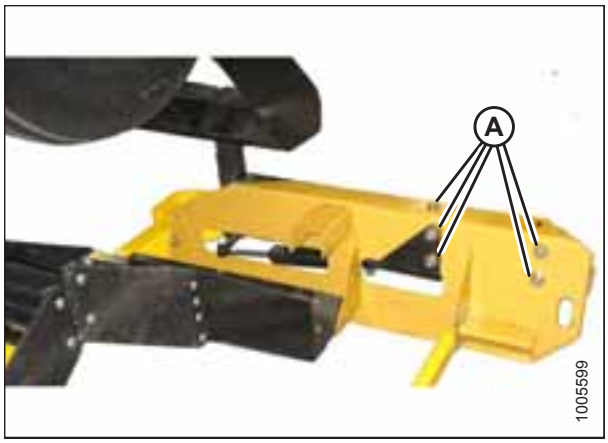


Figure 3.23: Shipping Frame on Caster

8. Lift caster assembly off shipping frame and position at end of walking beam (A).
9. Insert right caster extension into walking beam and position for desired tread.

Figure 3.24: Walking Beam

10. Install six 3/4 in. bolts (A) and hardened washers into the walking beam and caster beam. Use longer bolts through anti-shimmy bracket (B).
11. Tighten bolts as follows:
    a. Snug up the two bolts underneath beam.
    b. Tighten the four back bolts to 447 Nm (330 lbf·ft).
    c. Tighten bolts underneath beam to 447 Nm (330 lbf·ft).
12. Repeat Steps *7, page 42* through *11, page 43* for left caster.
13. Retighten bolts at 5 and 10 hours of operation.

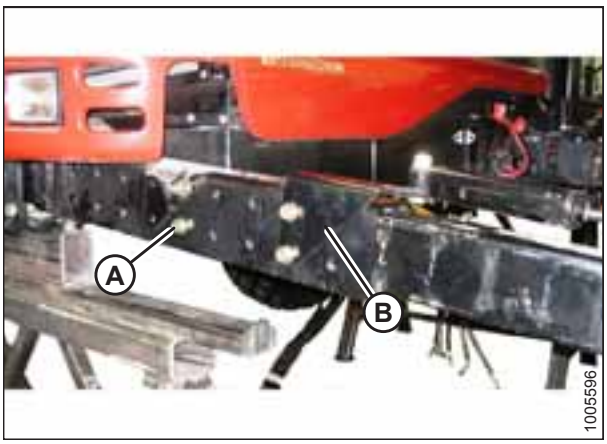


Figure 3.25: Walking Beam

3.6 Installing Hydraulics

1. Retrieve all capped hoses from inside the frame.
2. Locate the three hoses with capped tees extending from the valve block.
3. Remove caps from the fittings with similar colored cable ties, and connect hoses (A) to tees. Do **NOT** connect the large case drain hoses from the wheel motors at this time.

   NOTE:

   Remove caps on tee last to minimize oil loss.
4. Position hoses into frame.
5. Locate the two hoses with capped ends and matching colored ties. A union is connected to one of the hoses.
6. Remove the caps and connect the two hoses together. Position hoses in frame.
7. Retrieve the four remaining capped hoses coming out of the frame.

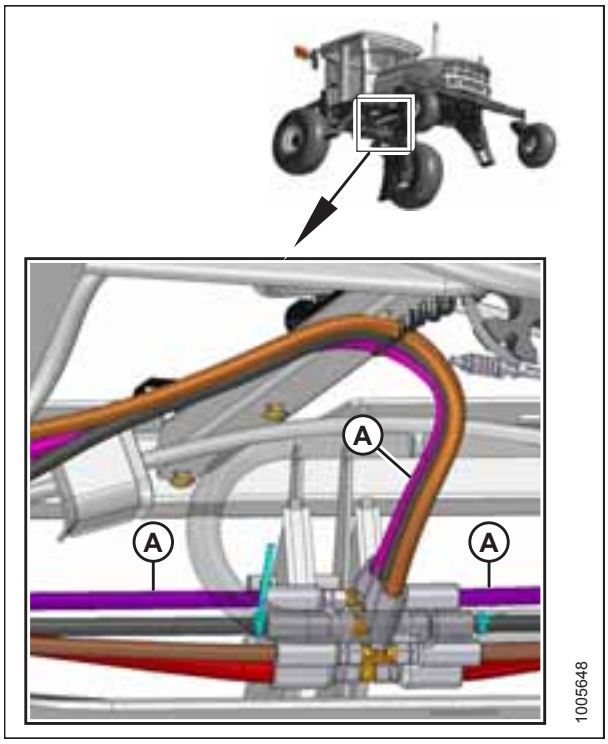


Figure 3.26: Hydraulic Hoses

8. Loosen bolts (A) and move the valve block to improve access through the hole in the frame in order to insert wrenches and tighten fittings.
9. Remove caps from hoses and matching valve block fittings (B).

   NOTE:

   Some hoses are hidden for clarity.
10. Make connections using colored plastic cable ties as a guide. Tighten fittings.
11. Reposition valve block and retighten bolts.

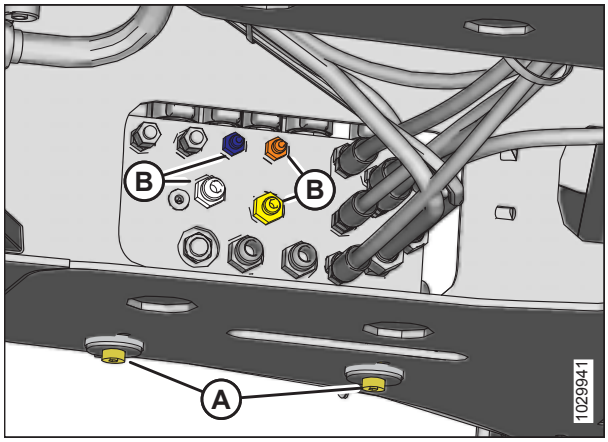


Figure 3.27: Hydraulic Valve and Hoses

12. Position four hoses (A), (B), (C), and (D) against the support as shown and secure with plastic ties.

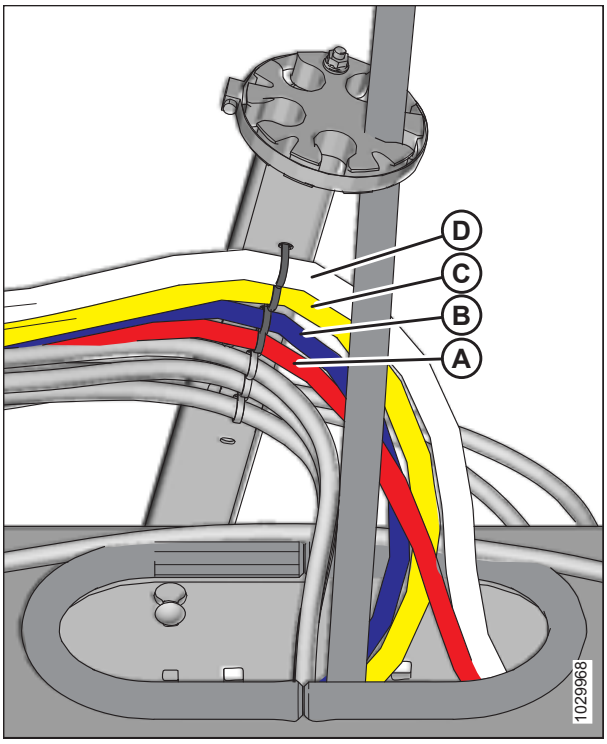


Figure 3.28: Hydraulic Hose Routing

A - Hose (MD #111323) connected to valve block port B — orange tie

B - Hose (MD #111323) connected to valve block port A — blue tie

C - Hose (MD #111557) connected to valve block port E — yellow tie

D - Hose (MD #111328) connected to valve block port F — white tie

13. Remove clamp (A) from the round plastic hose block.

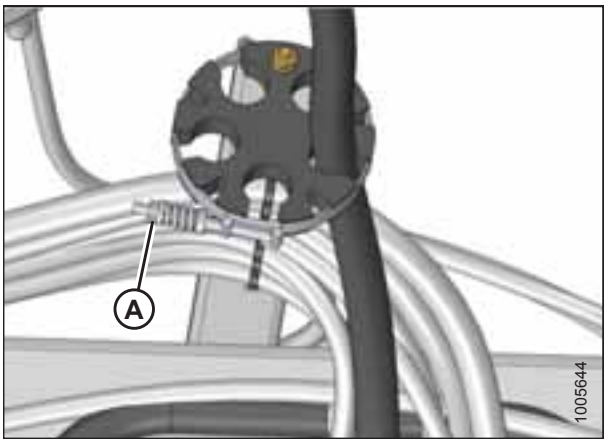


Figure 3.29: Hose Block

14. Insert two left traction drive hoses (A) into the hose block as shown. Case drain hose (B) is preinstalled in the block.
15. Insert two right traction drive hoses (C) into the hose block as shown.

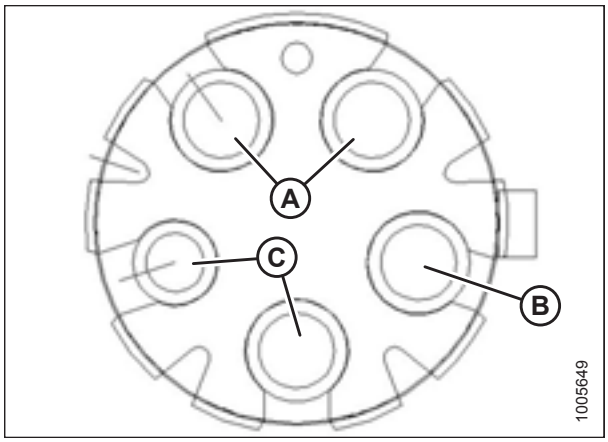


Figure 3.30: Hose Block – View Looking Forward

16. Reinstall clamp (A).

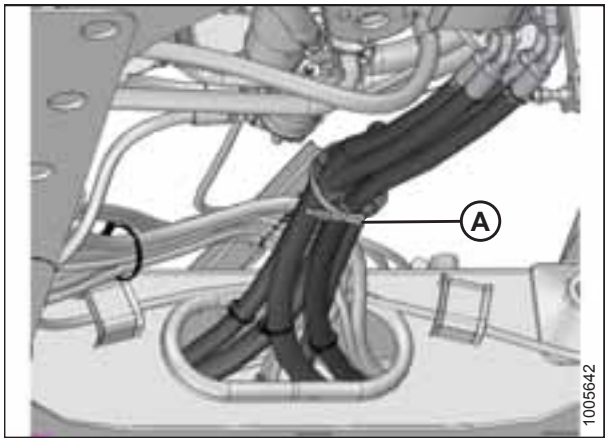


Figure 3.31: Hose Routing

17. Remove four caps (A) from traction drive pump (B).

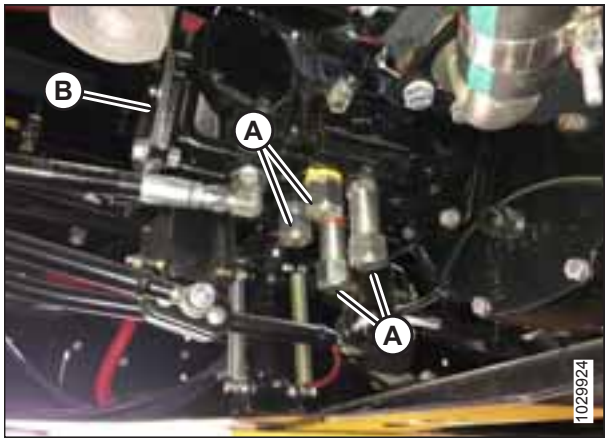


Figure 3.32: Traction Drive Pump — Bottom Left Side

NOTE:

The front two traction drive pump ports are for the wheel motor on the **LEFT** side of the windrower.

18. Attach hose (A) (no tie) to pump port D (no tie). Tighten fittings.
19. Attach hose (B) (yellow tie) to pump port C (C) (yellow tie). Tighten fittings.

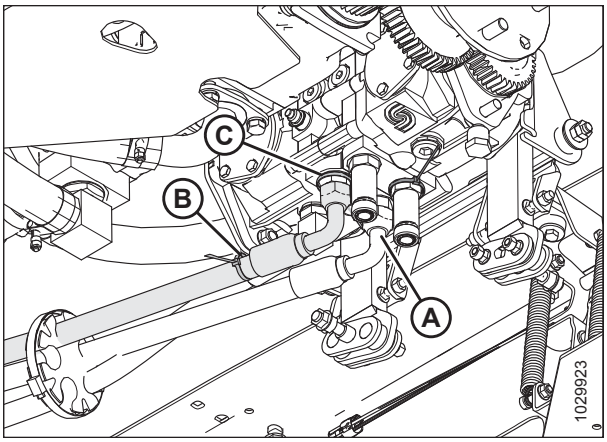


Figure 3.33: Traction Drive Pump — Bottom Left Side

NOTE:

The rear two traction drive pump ports are for the wheel motor on the **RIGHT** side of the windrower.

20. Attach hose (A) (red tie) to pump port B (B) (red tie). Tighten fittings.
21. Attach hose (C) (no tie) to pump port A (no tie). Tighten fittings.

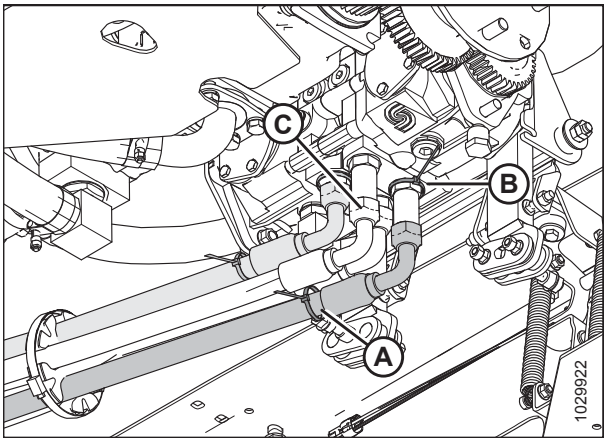


Figure 3.34: Traction Drive Pump — Bottom Left Side

22. Retrieve the two motor case drain hoses (MD #111312) at the front frame and the 22 mm (7/8 in.) tee fitting on the hose (C) from the pump.

NOTE:

The hoses are labeled with the part numbers.

23. Remove caps from the hoses (B) only.
24. Remove one cap from tee fitting (A), and quickly attach hose (B) to minimize oil spillage.
25. Remove second cap from tee fitting (A), and quickly connect other hose (B).
26. Tighten fittings.
27. Position hoses into frame.

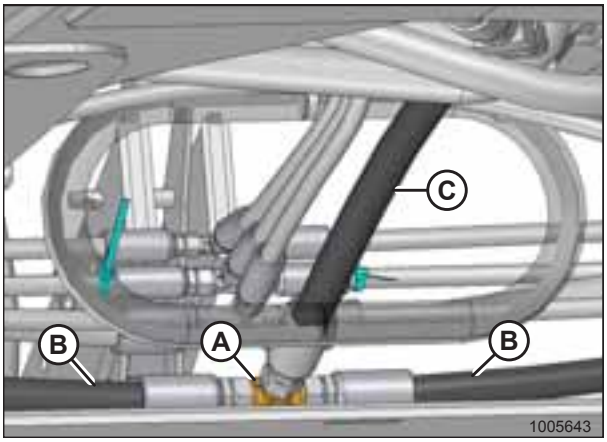


Figure 3.35: Hose Routing

28. Secure hoses with cable ties (A) as required.

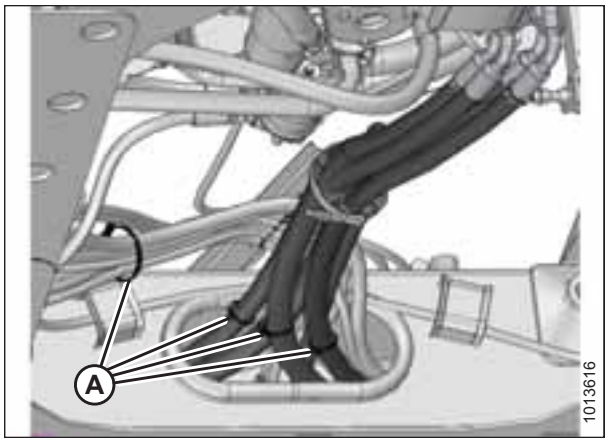


Figure 3.36: Hose Routing

29. Retrieve wheel leg harness connectors C7B (A) and C6B (C) from inside the frame.

    NOTE:

    C7B (A) is attached to the harness labeled as MD #109755.
    C6B (C) is attached to the harness labeled as MD #109545.

30. Connect connector C7B (A) to connector C7A (B).

31. Connect connector C6B (C) to connector C6A (D).

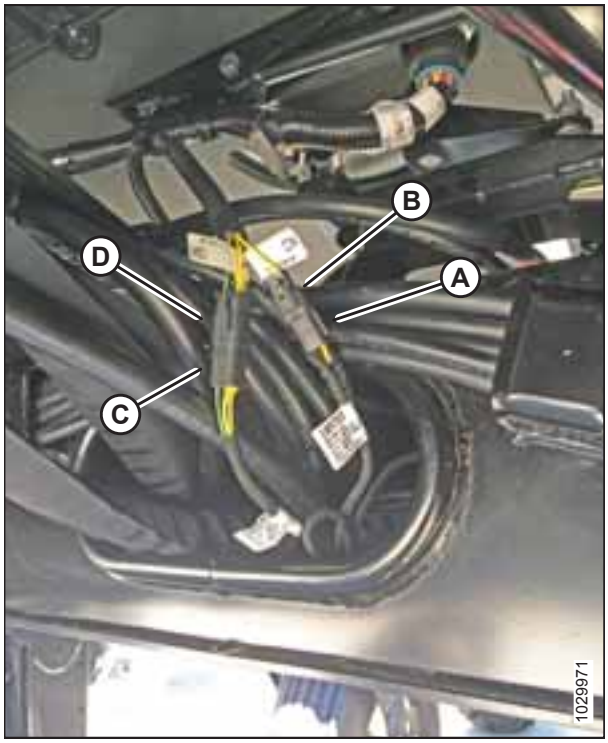


Figure 3.37: Wheel Leg Harness Connections

32. Remove any straps that secure electrical harness (D) to hydraulic hose bundle (A).
33. Route hose bundle (A) and hose (B) through hose support (C) and lay the hoses on the tire.
34. Route electrical harness (D) along the right side of hose support (C) as shown.
35. Secure electrical harness (D) to hose support (C) using tie (E).
36. Secure electrical harness (D) and hose (B) using ties (F).

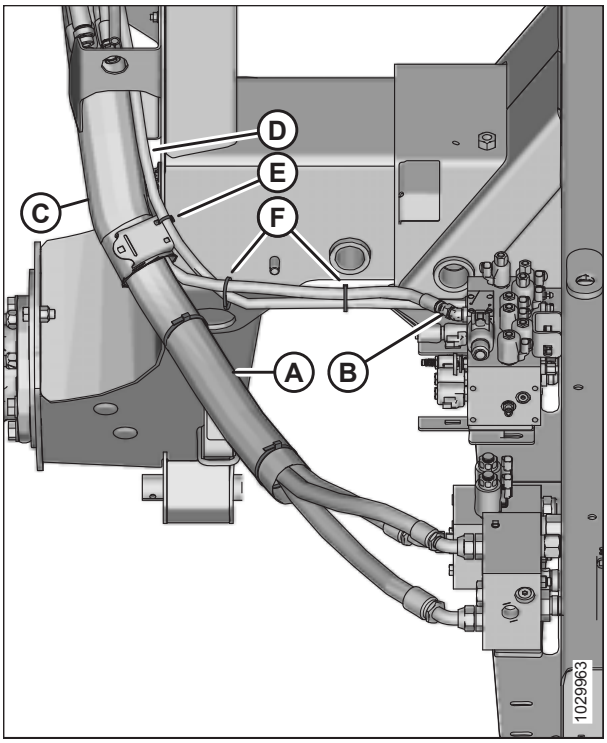


Figure 3.38: Hose Routing

37. Attach harness (A) to hose support with hose clip (B).

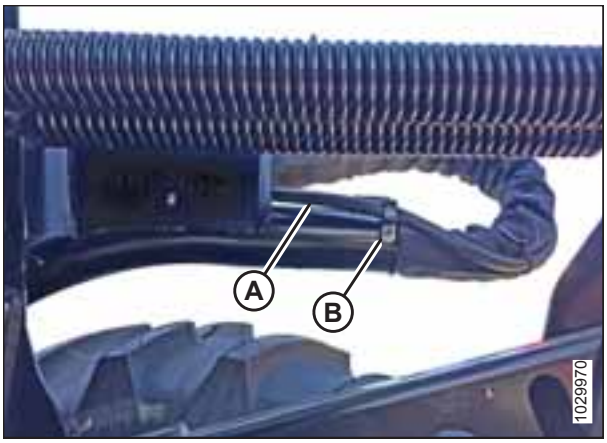


Figure 3.39: Harness Routing — Right Side of Hose Support

38. Disengage and rotate hook (A) to fully up position.
39. Position hose bundle (B) over the hose support and under the hook.

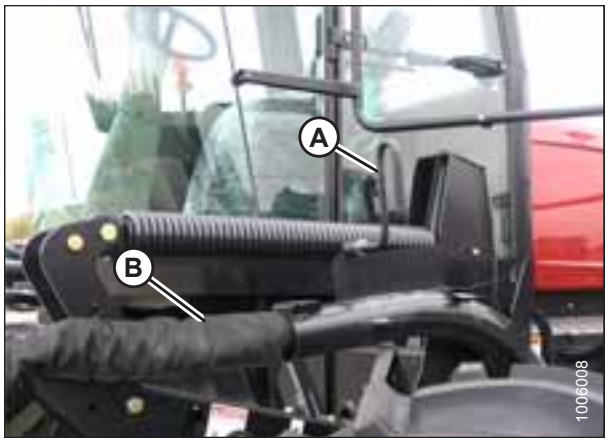


Figure 3.40: Hook Positioning

40. Route electrical harness (A) along the topside of hose bundle (B) as shown to prevent chafing of the electrical wires when the windrower is operating with a header.
41. Secure electrical harness (A) to hose bundle (B) using strap (C).

Figure 3.41: Harness Routing — Front Side of Hose Support

42. Lower hook (A) and engage in bracket (B) in the down position.
43. Secure the electrical harness to the hose bundle using fabric strap (C).
44. Attach electrical harness coupler (D) to hose support.

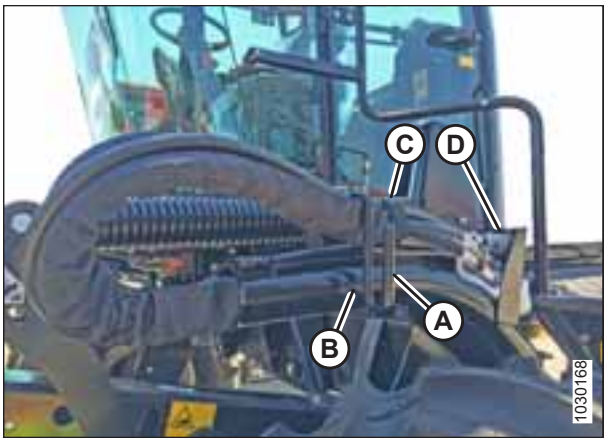


Figure 3.42: Hook Positioning and Harness Routing

45. Attach the reel hose support tube to the right leg with two 3/8 x 1 in. carriage bolts (A) and nuts.

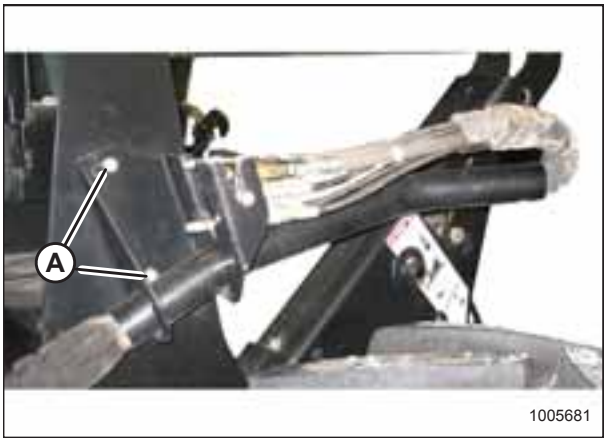


Figure 3.43: Reel Hose Support

3.7 Removing Battery Shipping Shield

1. Loosen nut (A) on the battery clamp.
2. Slide shield (B) out from under the battery and discard.
3. Tighten nut (A) on the battery clamp.

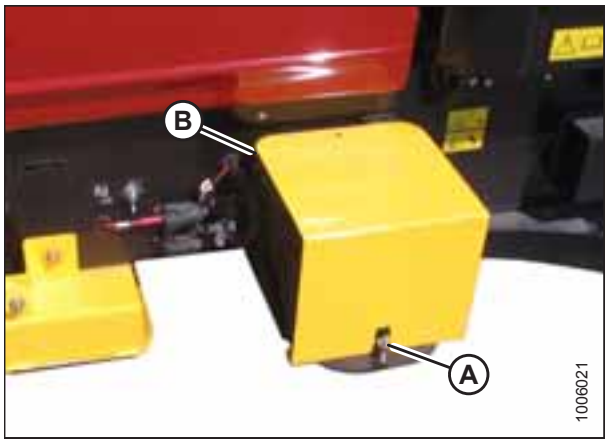


Figure 3.44: Battery Shipping Shield

4. Remove one of two bolts (A) and nuts, and loosen the other.

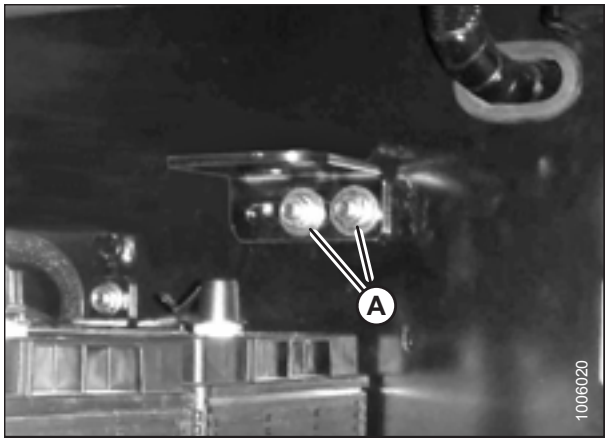


Figure 3.45: Bracket Shipping Position

5. Rotate bracket (A) by 180°, align holes, and reinstall bolt (B) and nut. Leave bolts loose.

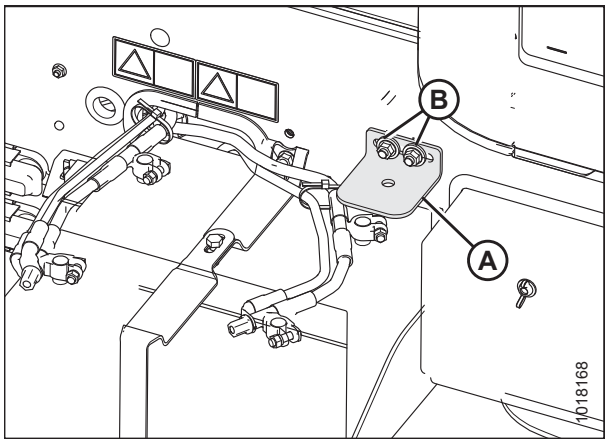


Figure 3.46: Bracket Repositioned

3.8 Unpacking Ignition Keys

The fuse box is mounted on the right (cab-forward) side of the frame under the platform.

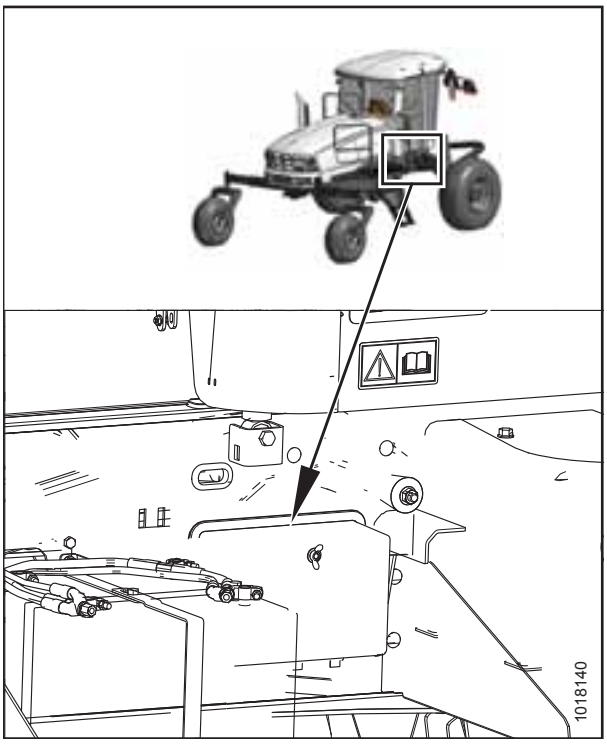


Figure 3.47: Fuse Box Location

1. Remove wing nut (A) from fuse box cover (B) and remove cover.

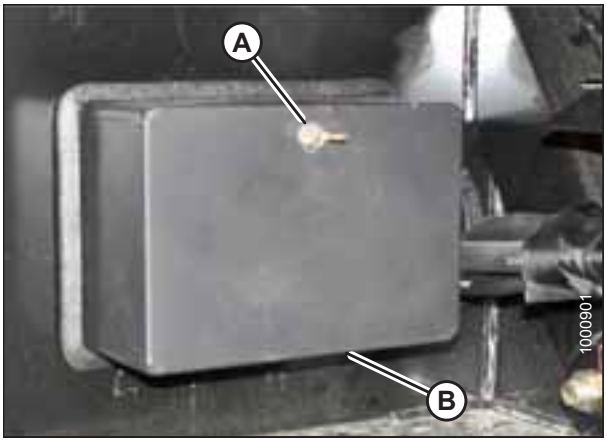


Figure 3.48: Fuse Box

2. Remove tape and keys (A) from inside the cover.
3. Unlock cab doors and place keys on console.
4. Close cab doors.
5. Install fuse box cover (B) and secure with wing nut.

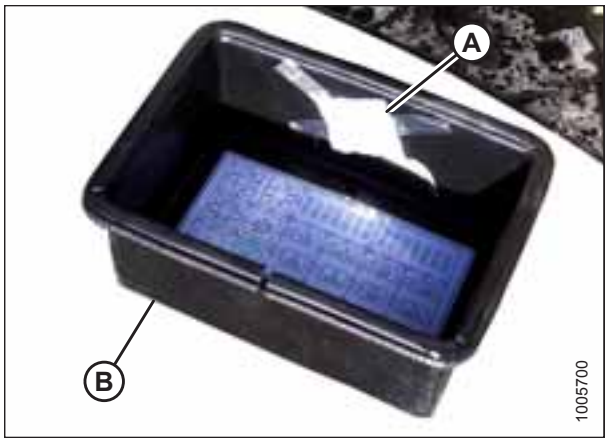


Figure 3.49: Fuse Cover

3.9 Installing Platforms

NOTE:

The procedure for left side installation is shown—right side installation is similar.

1. Remove two 1/2 x 3/4 in. bolts (A) securing the rails to the shipping beam, and remove the rails. Retain hardware.
2. Remove the shipping brackets from the platform assembly. Retain hardware.

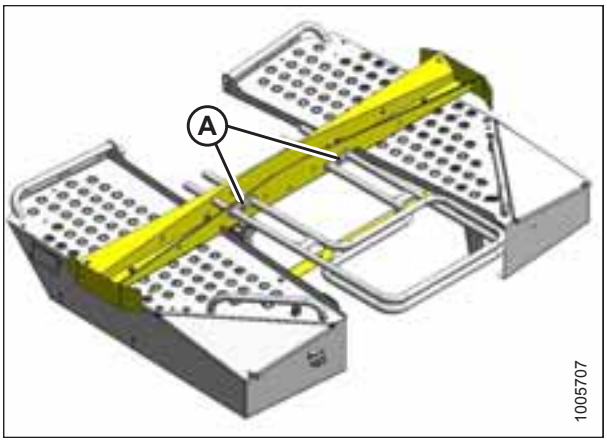


Figure 3.50: Platform Shipping Assembly

3. Attach one end of a sling to the platform and the other end to a lifting device.

WARNING

To avoid injury or death from fall or swinging of raised load, keep all bystanders clear when lifting.

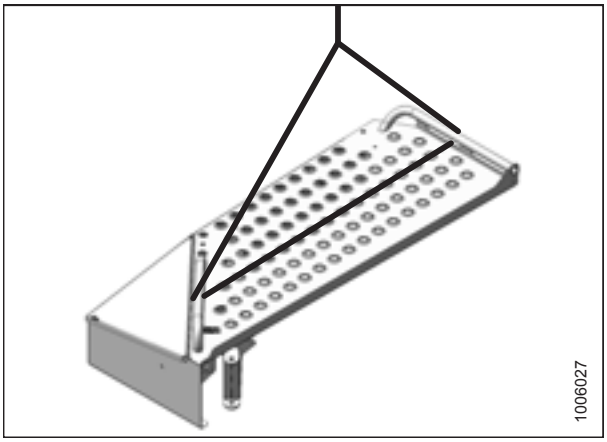


Figure 3.51: Left Platform

4. Position the platform against the windrower frame.

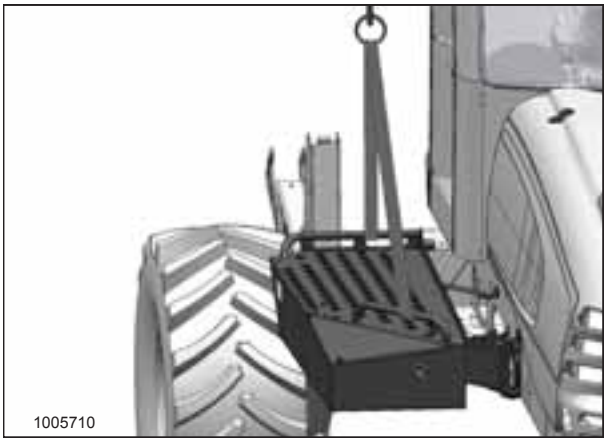


Figure 3.52: Left Platform

5. Attach the main beam of the left platform to the side frame using three 1/2 x 1 1/4 in. long carriage bolts (A). Ensure the bolt heads face inboard, and tighten just enough to permit adjustment.

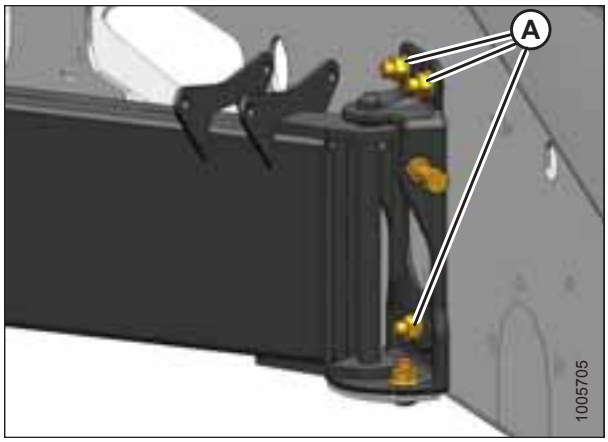


Figure 3.53: Left Platform – Main Beam

6. Attach the steering arm to the frame with two 3/8 x 3/4 in. long carriage bolts and nuts (A). Ensure the bolt heads face inboard, and tighten bolts.
7. Remove sling.

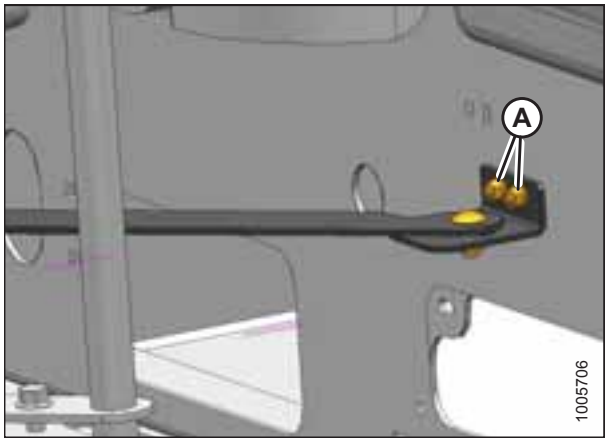


Figure 3.54: Left Platform – Steering Arm

8. Attach the railings to the platform with 1/2 x 3/4 in. locking bolts (A) provided. Tighten bolts to 102 Nm (75 lbf·ft).

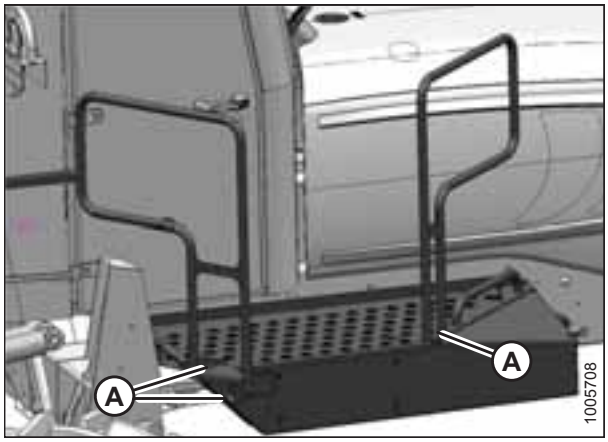


Figure 3.55: Left Platform – Railings

9. Slowly close the platform and check that the vertical rail tubes are parallel with the cab posts when viewing from the rear.

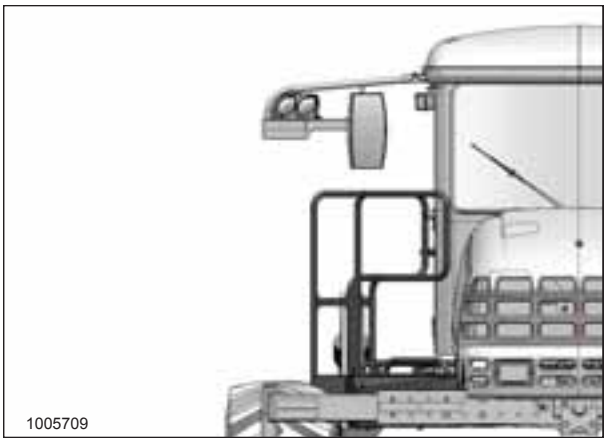


Figure 3.56: Left Platform

10. Laterally adjust king pin mounting (A) as required.

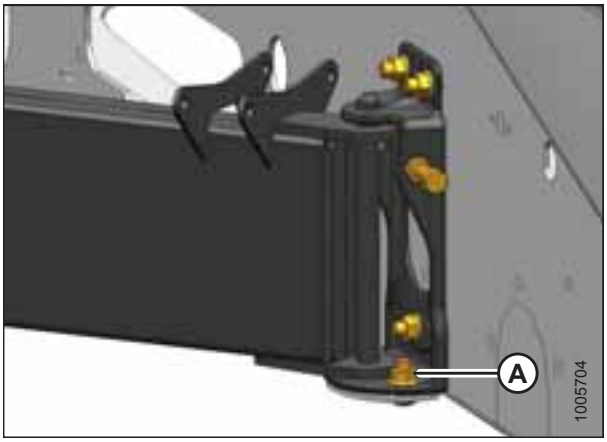


Figure 3.57: Left Platform – Main Beam

11. Ensure rubber bumper (A) is contacting the frame.

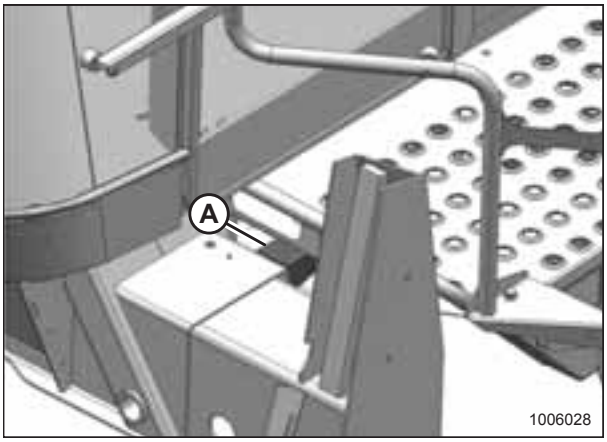


Figure 3.58: Left Platform – Rubber Bumper

12. Ensure the front of the platform is contacting the guide (A).

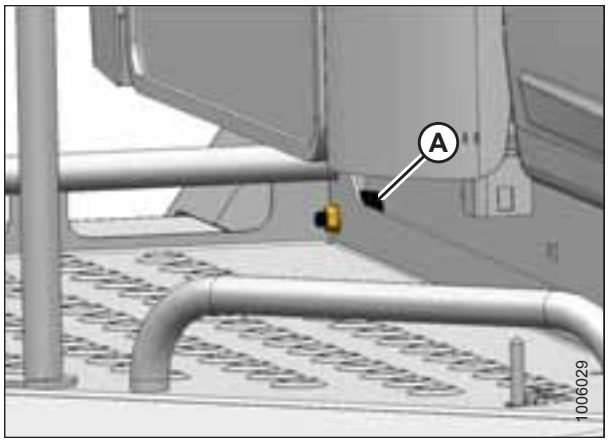


Figure 3.59: Left Platform – Guide

13. Adjust the platform horizontally with 1/2 x 2 1/4 in. bolt (A) as required.

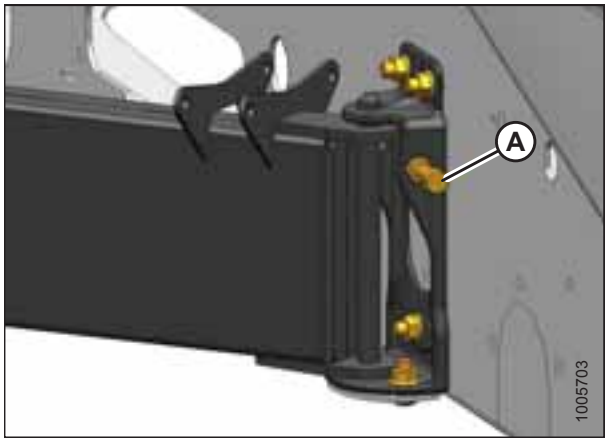


Figure 3.60: Left Platform – Main Beam

14. If major adjustment is required, relocate steering arm (A) into either of the other holes on bracket (B).
15. Tighten the three main beam attachment bolts to 108 Nm (80 lbf·ft).
16. Repeat procedure to install the right side platform.

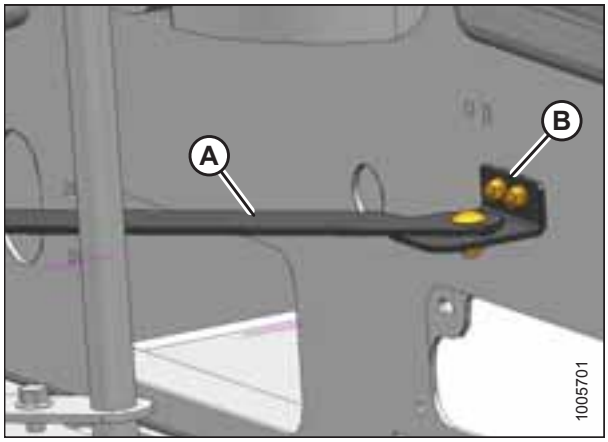


Figure 3.61: Left Platform – Steering Arm

3.10 Installing Steps

NOTE:

Procedure for left side installation shown—right side installation similar.

1. Remove two existing upper bolts (A).
2. Ensure two lower bolts (B) are not threaded in fully.

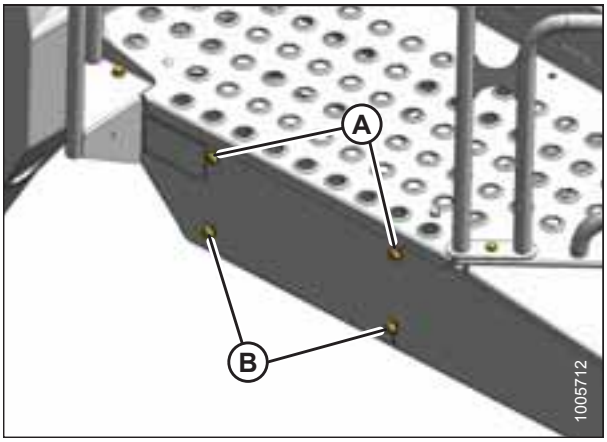


Figure 3.62: Left Platform

3. Hang step assembly on lower bolts (B). Back off bolts, if necessary.
4. Install two bolts (A) in the upper holes of the step and platform.
5. Torque all bolts to 20 Nm (15 lbf·ft).
6. Repeat for opposite step assembly.

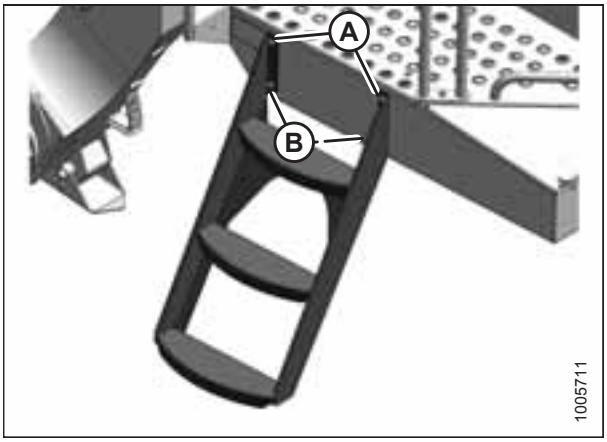


Figure 3.63: Left Steps Installed

3.11 Removing Protective Covering from Exhaust Stack

1. Remove the protective covering from exhaust stack (A).

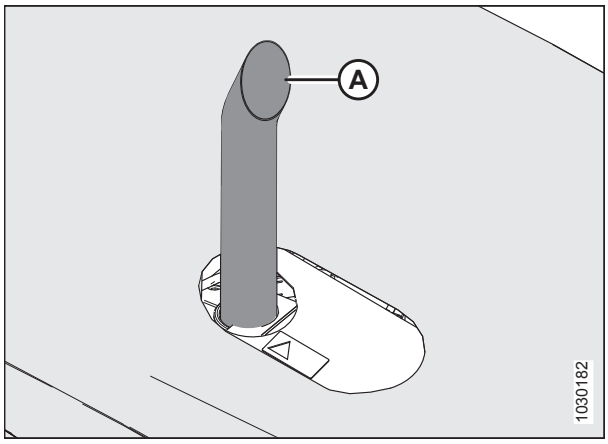


Figure 3.64: Exhaust Stack Installed

3.12 Installing Pre-cleaner

1. Locate latch (A) behind the grill and lift to release the hood.
2. Raise hood until strap (B), which should be looped under hooks (C) and (D), stops at approximately a 40° angle.
3. Remove strap (B) from hook (C) and allow hood to rise slightly farther.
4. Remove the strap from hook (D) and allow the hood to rise fully to approximately a 65° angle.

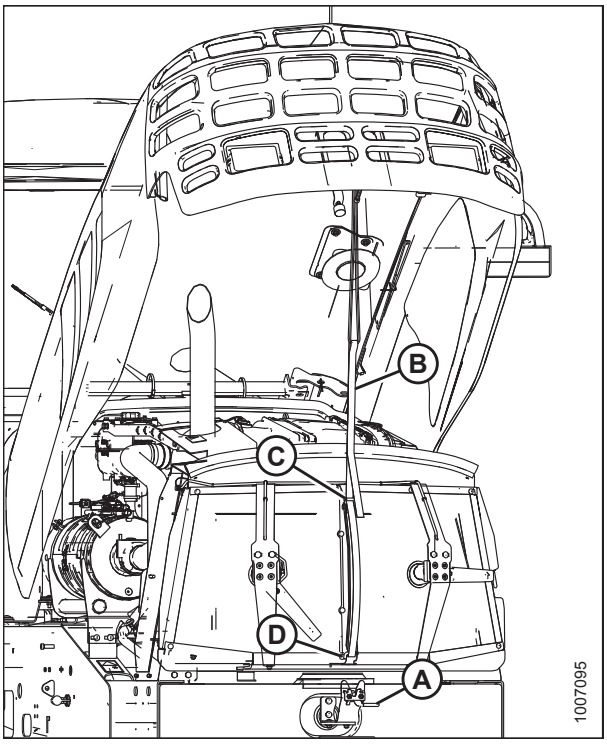


Figure 3.65: Hood Open – Highest Position

5. Retrieve the pre-cleaner (A) and pre-cleaner support (B) from inside the cab, and loosen clamp (C).
6. Remove pre-cleaner (A) and clamp (C) from pre-cleaner support (B).

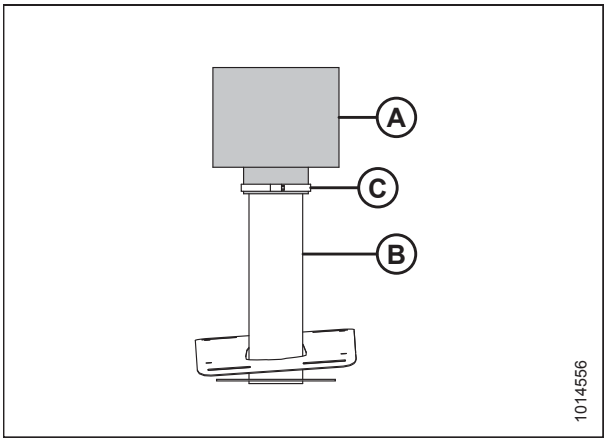


Figure 3.66: Pre-Cleaner Assembly

7. From inside the hood, loosen hardware (A) and install pre-cleaner support (B) into the cutout in the hood.
8. Install four bolts (A) to secure pre-cleaner support (B) to the hood.

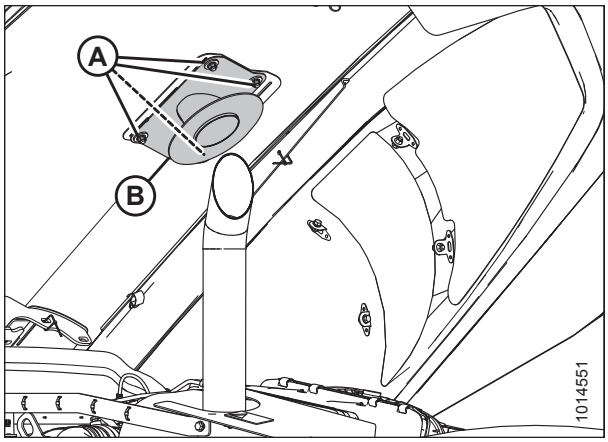


Figure 3.67: Pre-Cleaner Support

9. Pull down on strap (B) and loop under lower hook (D).
10. Grasp strap (B) and loop under upper hook (C).

    IMPORTANT:

    Failure to hook strap may result in it becoming entangled with the screen cleaners or the latch.
11. Pull down on strap (B), grasp the hood when within reach, and lower until hood engages latch (A).

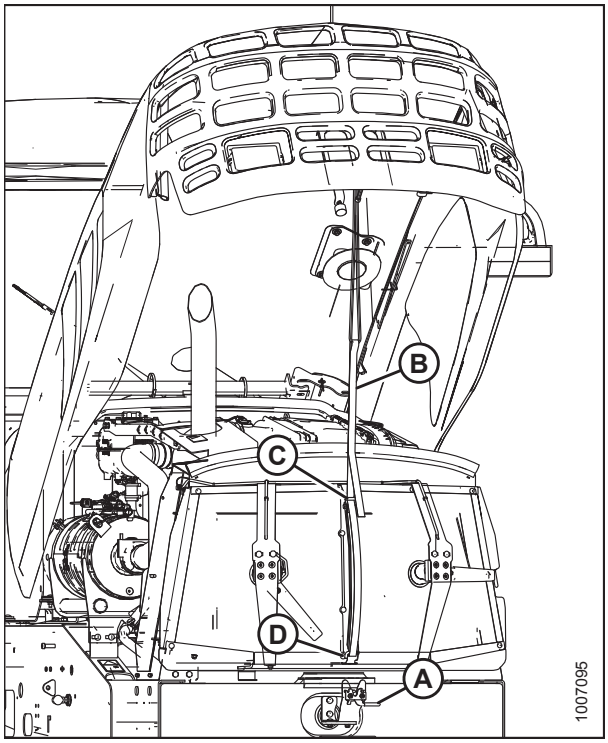


Figure 3.68: Hood Open – Highest Position

12. Install pre-cleaner (B) onto support tube (C).
13. Install clamp (A) to secure pre-cleaner (B).

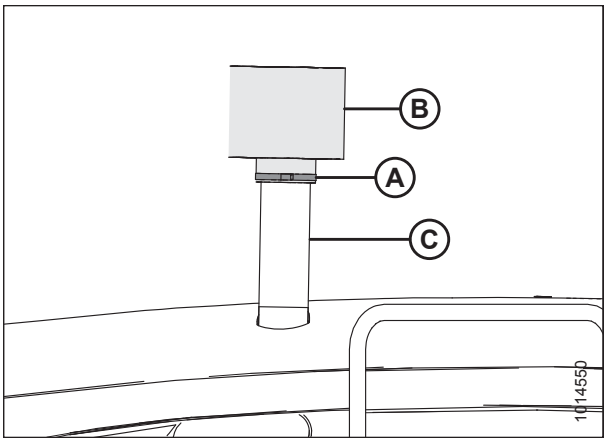


Figure 3.69: Pre-Cleaner

3.12.1 Adjusting Pre-cleaner

CAUTION

Do NOT stand on an unlocked platform. It is unstable and may cause you to fall.

1. Push right platform latch (A) to unlock it.
2. Grasp handle (B) and pull the platform toward the walking beam until the platform is latched in the open position.

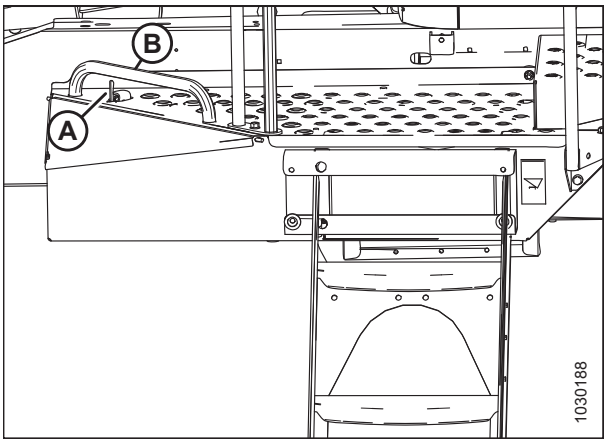


Figure 3.70: Right Platform – Closed Position

3. Confirm platform (A) is secured in the open position before using it.
4. Open the hood.

Figure 3.71: Right Platform – Open Position

5. From inside the hood, on the right panel in the cab-forward position, locate removable access panel (B).
6. Remove four bolts (A) that secure access panel (B).
7. Remove access panel (B).
8. Close the hood.

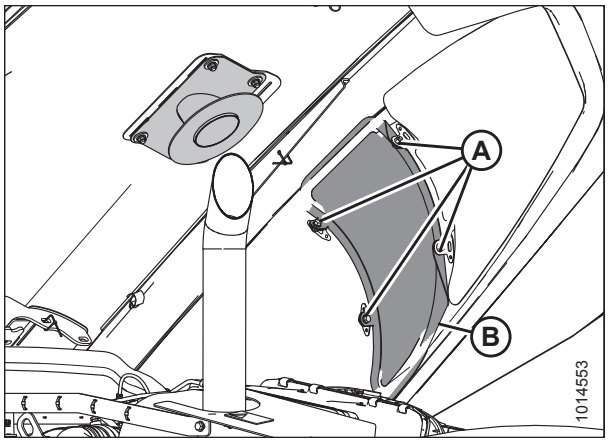


Figure 3.72: Access Panel

NOTE:

In the illustration at right, the side panel has been made transparent to show items under the hood.

9. Check that rubber seal (A) on air intake stack is compressed against plate (B) on the pre-cleaner support.
10. If adjustment is required, open the hood and loosen nuts (C) on the air intake stack.
11. Close the hood.
12. Access the air intake stack through access hole (D). Adjust air intake stack.

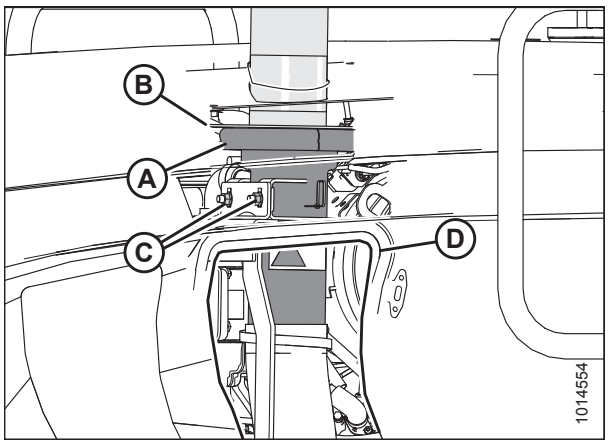


Figure 3.73: Air Intake Stack

13. Open the hood and install access panel (B).
14. From inside the hood, install four bolts (A) that secure access panel (B) to the side panel.
15. Close the hood.

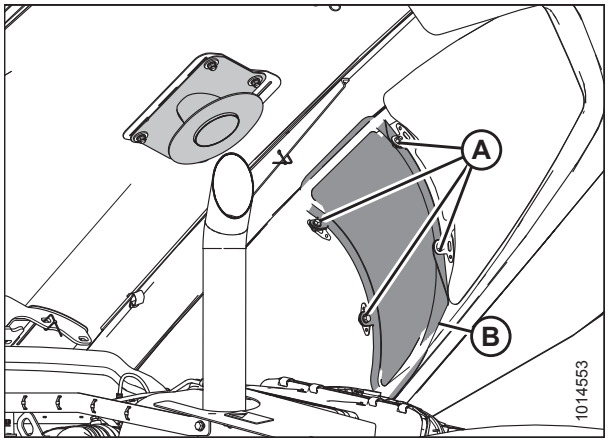


Figure 3.74: Access Panel

16. Push right platform latch (A) to unlock it.
17. Grasp handle (B) and push the platform forward until the platform is latched in the closed position.

CAUTION

Do NOT stand on an unlocked platform. It is unstable and may cause you to fall.

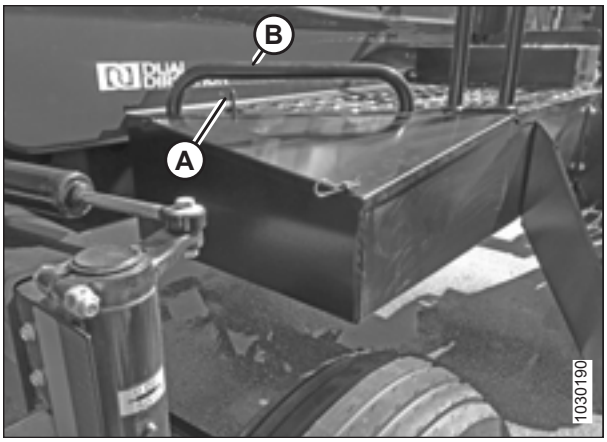


Figure 3.75: Right Platform – Open Position

18. Confirm platform (A) is secured in the closed position before using it.

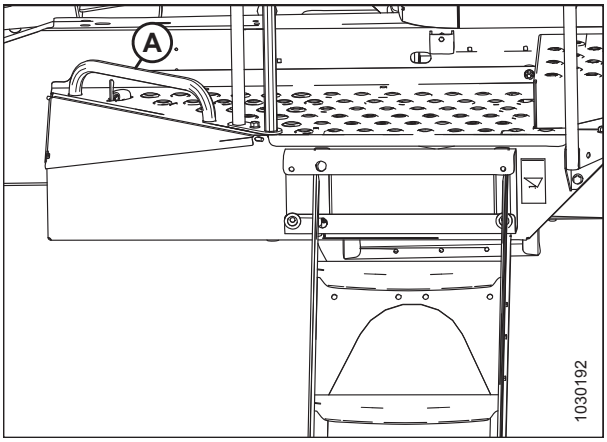


Figure 3.76: Right Platform – Closed Position

3.13 Positioning Light and Mirror Assemblies

1. Remove nut and bolt (A) securing the light and mirror assembly in the shipping position.
2. Swing light and mirror assembly (B) forwards and upwards.

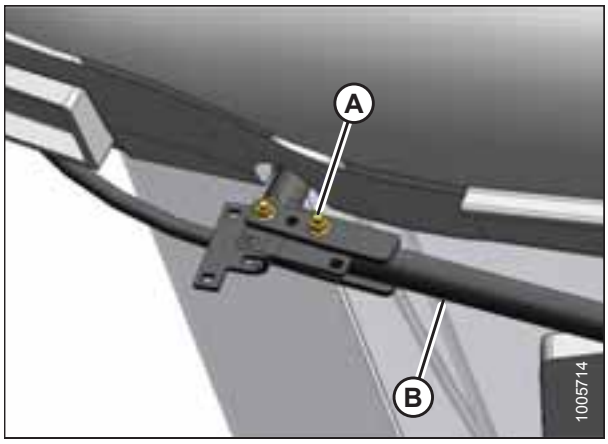


Figure 3.77: Light and Mirror Assembly in Shipping Position

3. Reinstall bolt (A) and nut in other hole.
4. Repeat for opposite mirror assembly.

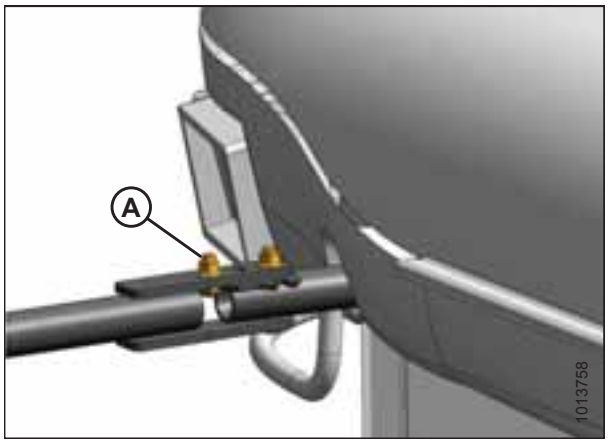


Figure 3.78: Light and Mirror Assembly in Working Position

3.14 Installing Beacons

1. Retrieve the two beacons from the shipment.
2. Remove the hardware and rubber base from one of the beacons as shown.

Figure 3.79: Beacon Light

3. Feed the connectors from the harness through the center hole in the rubber base.
4. Place the base on the beacon bracket ensuring that the mounting holes in the rubber base line up with the holes in the bracket.

Figure 3.80: Rubber Beacon Base on Mounting Bracket

5. Connect orange wire (A) from the harness to red wire (B) in the beacon.
6. Connect black wire (C) from the harness to the ground terminal in the beacon.

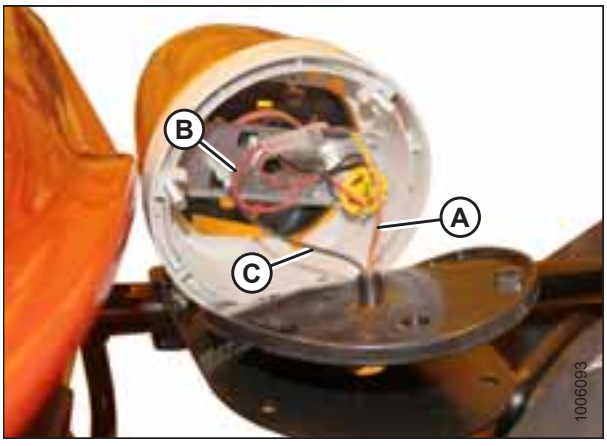


Figure 3.81: Beacon Light Wire Routing

7. Fit the beacon onto the base making sure the beacon is oriented with the point on the lens facing forward (cab-forward) as shown.

Figure 3.82: Beacon Light Orientation

8. Mount the beacon to the base using the lock washers and nuts (A) supplied with the beacon.
9. Install the second beacon on the opposite side of the cab roof.

Figure 3.83: Beacon Light

3.15 Installing the Slow Moving Vehicle Sign

1. Install slow moving vehicle (SMV) sign (A) (shipped inside the cab) onto the windrower in accordance with the instructions supplied with the sign. SMV signs must be visible when travelling on the road.

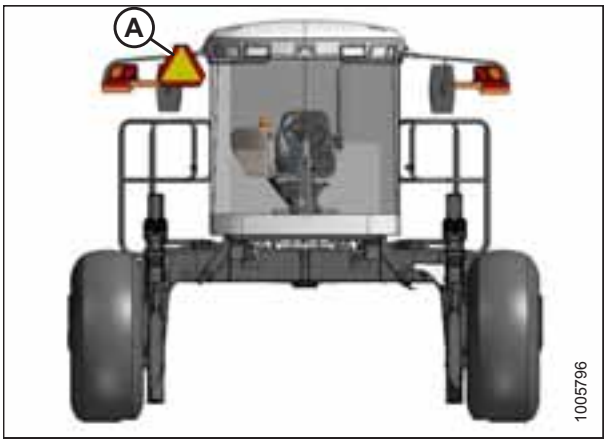


Figure 3.84: Engine-Forward Location

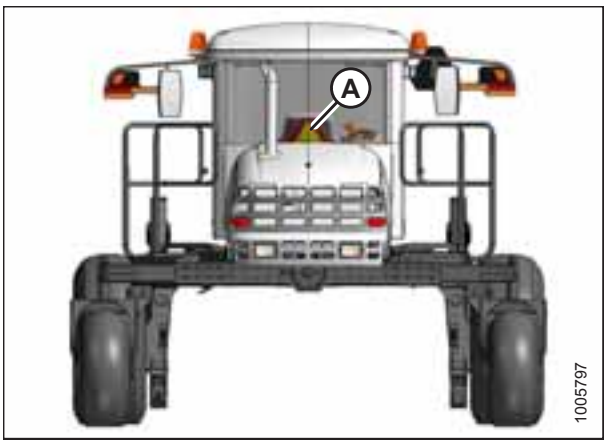


Figure 3.85: Cab-Forward Location

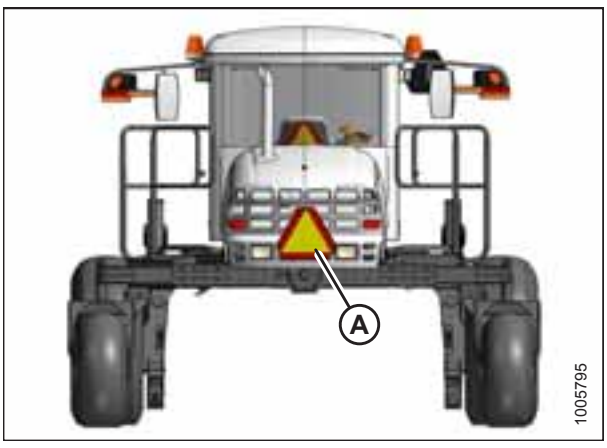


Figure 3.86: Alternate Location — Cab-Forward

3.16 Connecting Batteries

1. Open the right (cab-forward) maintenance platform.
2. Ensure battery main disconnect switch (A) is turned to the POWER OFF position.

   NOTE:

   The battery main disconnect switch is located on the right frame rail beside the batteries.
3. Remove the cable ties securing the battery cables to the battery clamps.

   IMPORTANT:

   Batteries are negative grounded. Always connect red starter cables to the positive (+) terminals of the batteries and black ground cables to the negative (–) terminals of the batteries. Reversed polarity in the batteries or alternator may result in permanent damage to the electrical system.

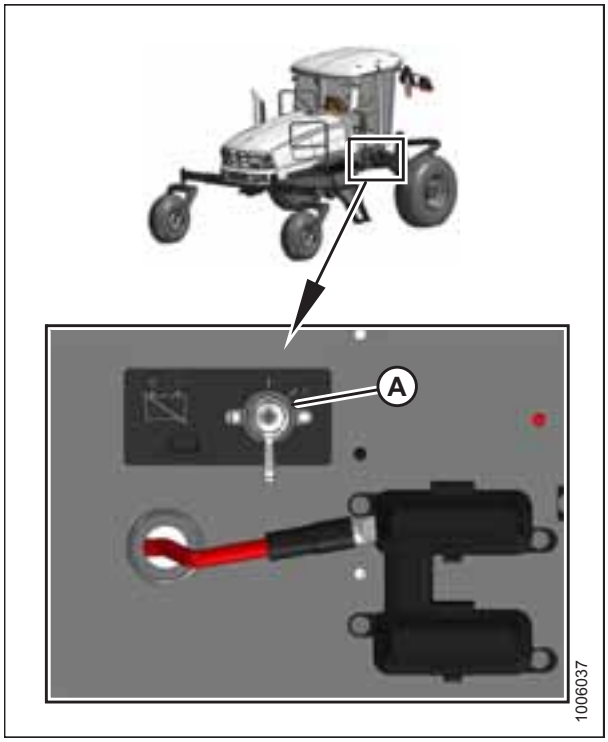


Figure 3.87: Battery Main Disconnect Switch

4. Remove the plastic caps from the battery posts.
5. Attach the red positive (+) cable terminals to positive posts (A) on the batteries and tighten clamps. Reposition plastic covers onto clamps.
6. Attach the black negative (–) cable terminals to negative posts (B) on the batteries and tighten clamps. Reposition plastic covers onto clamps.
7. Turn the battery main disconnect switch to the POWER ON position.
8. Move the right (cab-forward) maintenance platform forward to the closed position.

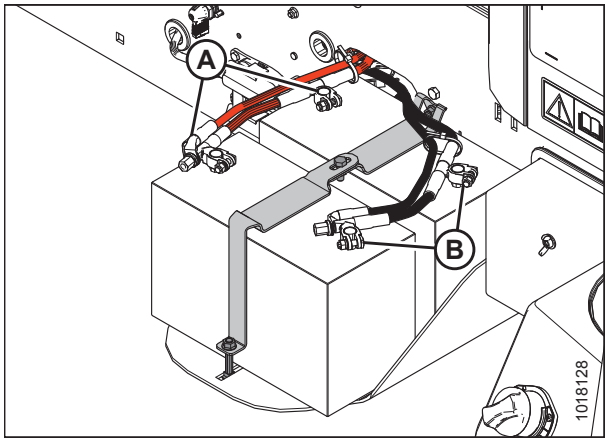


Figure 3.88: Batteries

3.17 Lubricating the Windrower

For grease specification, refer to *7.4 Lubricants, Fluids, and System Capacities, page 236*.

3.17.1 Lubrication Procedure

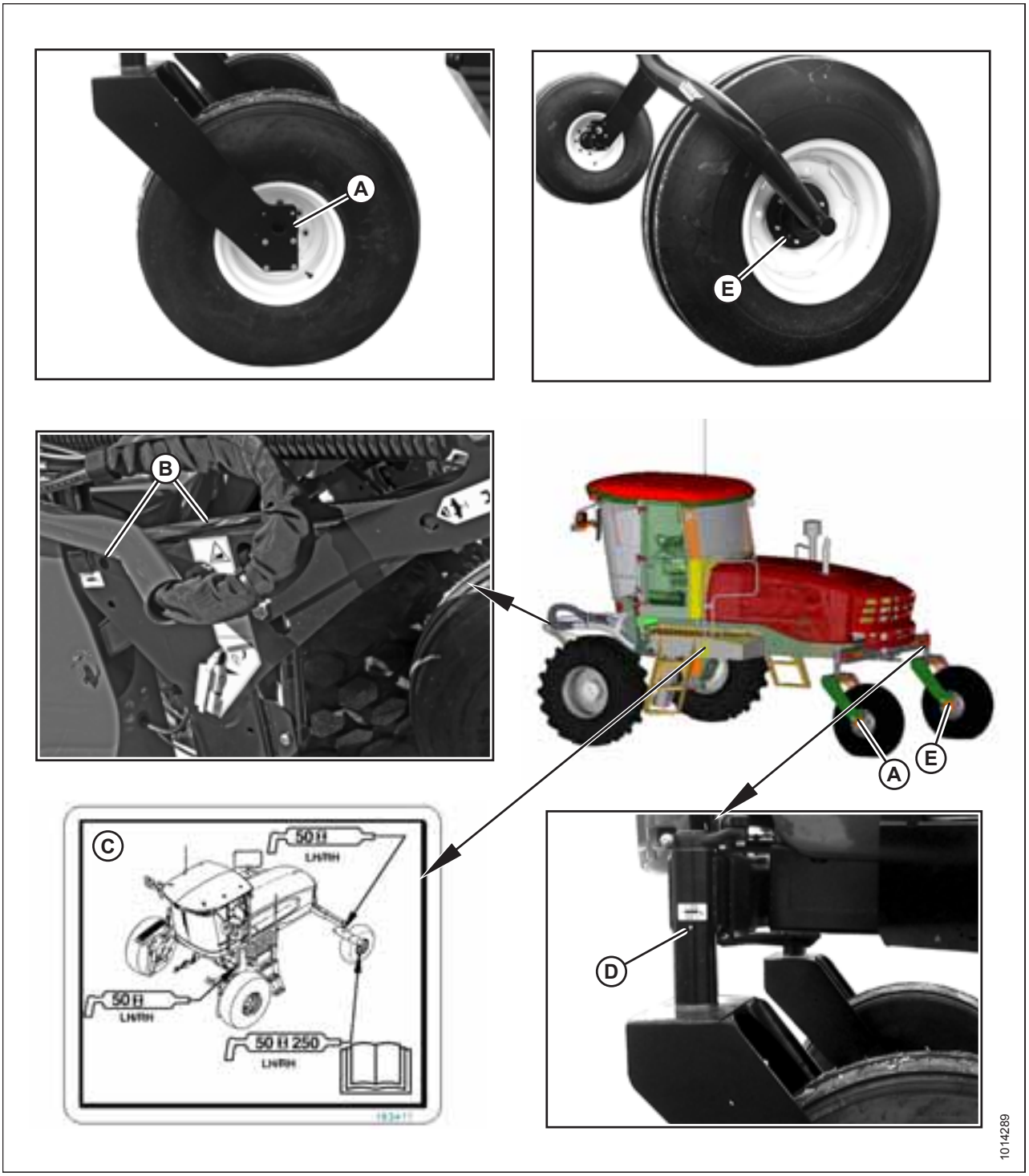
WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.
2. Wipe the grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
3. Inject grease through fitting with grease gun until grease overflows fitting. Do **NOT** overgrease wheel bearings.
4. Leave excess grease on fitting to keep out dirt.
5. Replace any loose or broken fittings immediately.
6. Remove and thoroughly clean any fittings (including the lubricant passageway) that will not take grease. Replace fitting, if necessary.

3.17.2 Lubrication Points

Figure 3.89: Lubrication Points



A - Forked Caster Wheel Bearing (Two Places) (Outer – Both Wheels)
B - Top-Link (Two Places) (Both Sides)
C - Lubrication Decal (MD #183411)
D - Caster Pivot (Both Sides)
E - Forked/Formed Caster Wheel Bearing (Two Places) (Inner – Both Wheels) (50 Hrs/250 Hrs)

3.18 Installing AM/FM Radio

M155*E4* Windrowers are designed to accept a DIN E style AM/FM radio with a depth (X) of 161 mm and having a 5 mm threaded stud (A) centered on the rear for support. Adjustments are possible if the radio falls outside these parameters.

In order to retain radio settings and preset memory with the battery disconnect turned off, select a radio with non-volatile settings memory.

NOTE:

An approved radio package is available from Radio Engineering Industries (REI) of Omaha, Nebraska.

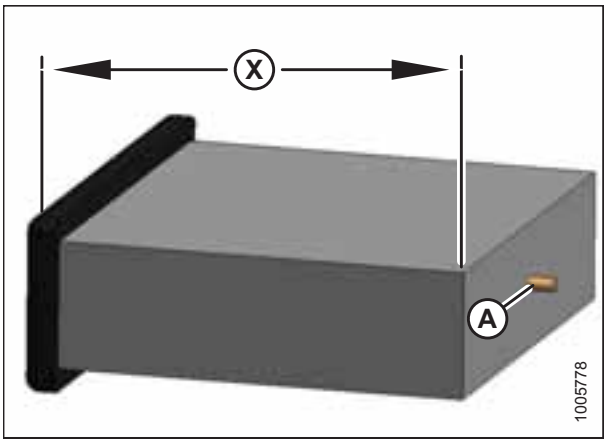


Figure 3.90: Mounting Dimension

1. Ensure the battery switch (A) is turned to the OFF position.
2. Ensure the ignition is turned OFF, and remove the key.

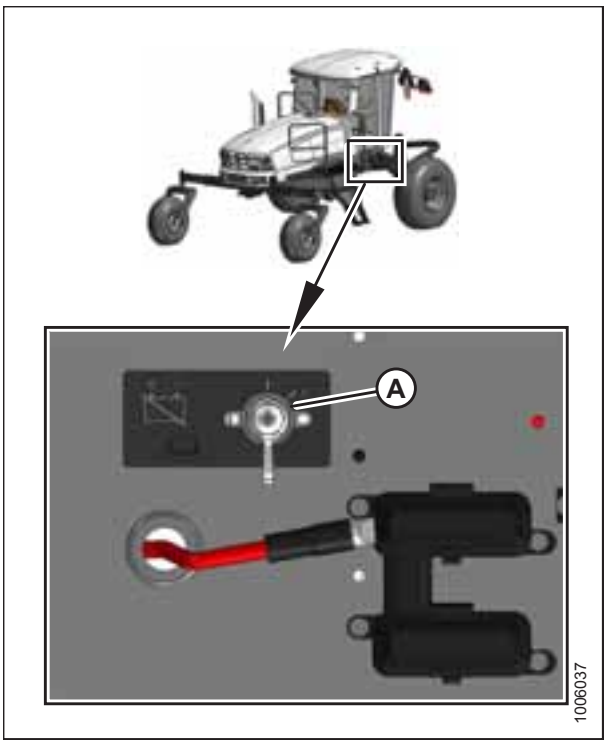


Figure 3.91: Battery Main Disconnect Switch

3. Remove radio panel by removing four screws (A).

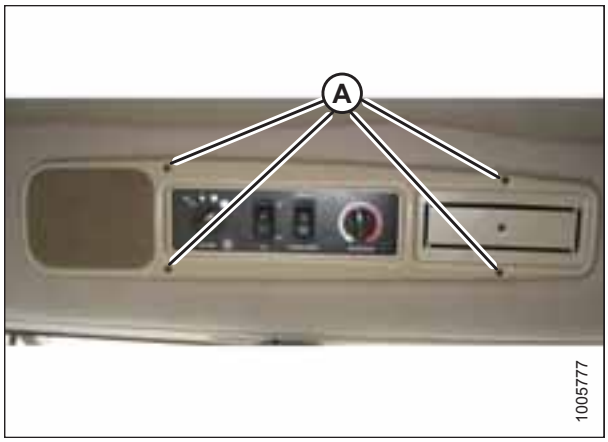


Figure 3.92: Radio Panel

4. Remove screw and nuts (A) and (C) to remove support (B) from panel. Retain nut (C) and lock washer.

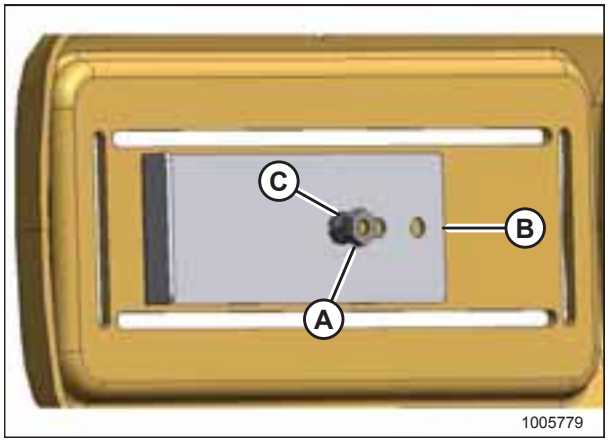


Figure 3.93: Panel Support

5. Remove the cutout by cutting tabs (A) in the panel. Remove sharp edges from the panel.

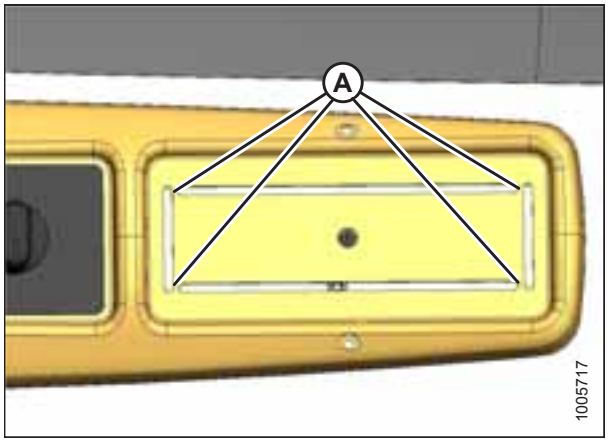


Figure 3.94: Panel

6. Position receptacle (A) (supplied with radio) into the opening, and secure by bending tabs (B) on the receptacle against the panel.

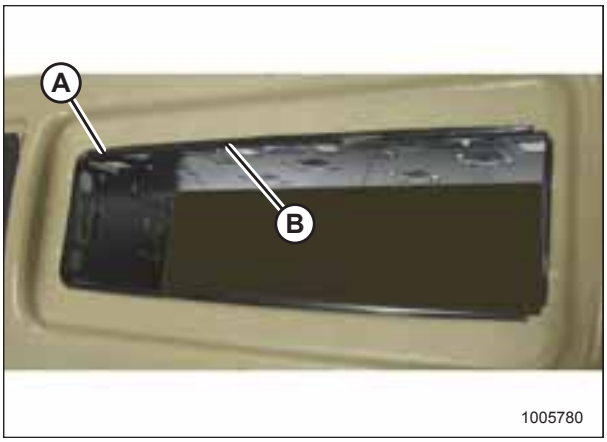


Figure 3.95: Radio Receptacle

7. Insert the radio into the receptacle and attach the radio bezel. Ensure the radio locks into position and faceplate (A) is against the panel.

Figure 3.96: Radio Installed

8. Ensure the radio has a six-pin connector (Packard #2977042) and a terminal arrangement as shown at right. This enables the radio to connect to the windrower's six-pin radio connector wiring harness.
9. Attach the following two additional wires from the wiring harness to the radio:
   a. **Circuit 503:** Red live-wire with 1/4 in. female blade terminal provides power for the radio clock/memory if radio is equipped with this feature.
   b. **Circuit 315:** Black ground-wire attaches to the radio body.
10. Plug the antenna cable into the radio.

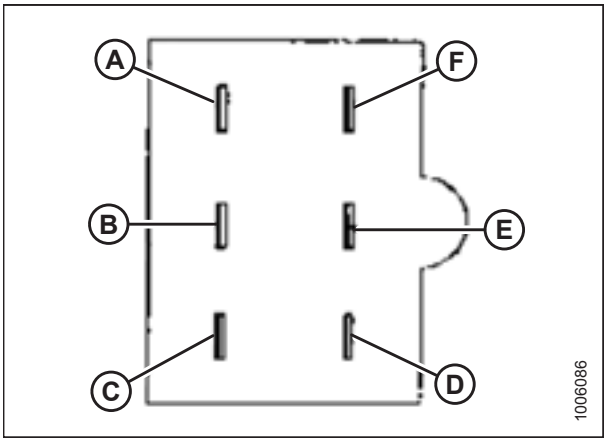


Figure 3.97: Six-Pin Connector Terminal Arrangement

A - Left Speaker Power (+)
B - Left Speaker Ground (–)
C - Radio Ground (–)
D - Right Speaker Ground (–)
E - Right Speaker Power (+)
F - Radio Power (+) (Live when Ignition is ON)

11. Attach the stud (supplied with radio) to the center rear of the radio.
12. Attach support (B) to the stud on the back of the radio with nut (A) and lock washer supplied with the support.

    NOTE:

    The support can be attached to the radio in multiple locations to allow for proper radio mounting.

13. Install the radio panel using the original screws.

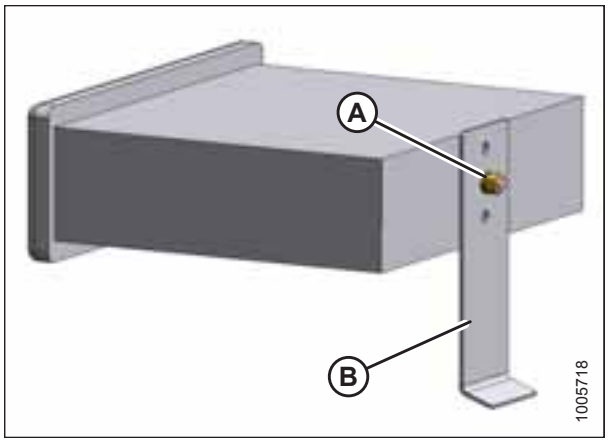


Figure 3.98: Radio and Support

14. Adjust bracket (A) (if necessary) by loosening nuts (B) to allow the radio to slide into the opening and securely capture support (C).

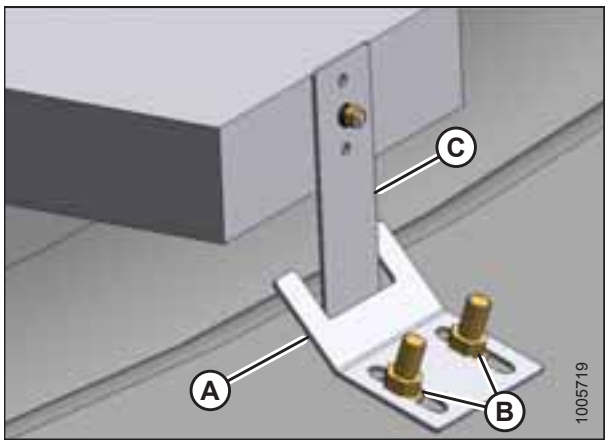


Figure 3.99: Radio and Support

15. Retrieve the antenna from inside the cab and remove the protective cover from the base.
16. Remove protective cover (A) from the antenna mount on the cab roof and thread the antenna onto the base until hand tight.

    NOTE:

    Store the protective cover in the cab and reinstall to protect the antenna mount if the antenna needs to be removed.

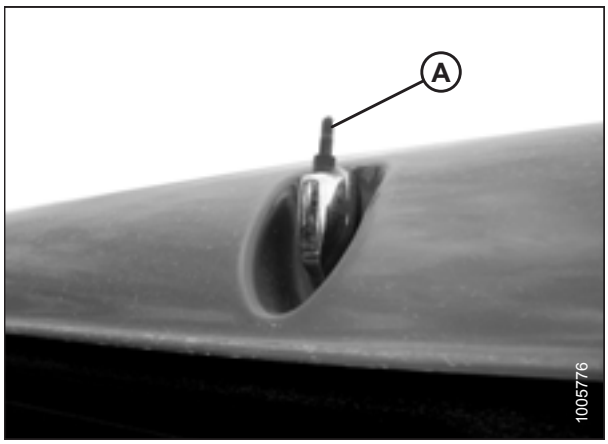


Figure 3.100: Antenna Mount on Cab Roof

17. Turn the battery switch (A) to the ON position.
18. Turn the ignition key to ACC, switch the radio ON, and check operation in accordance with instructions supplied with the radio.
19. Turn the ignition key to the OFF position, and remove the key.

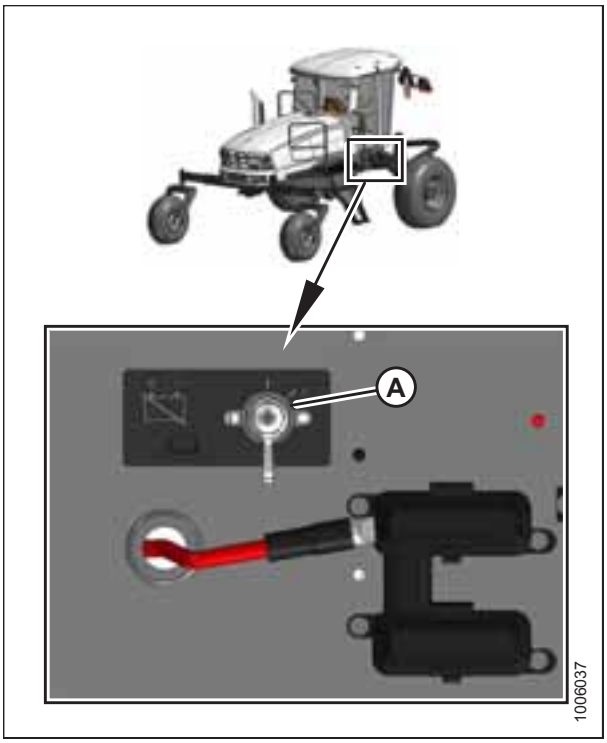


Figure 3.101: Battery Main Disconnect Switch

3.19 Performing Predelivery Checks

Perform all procedures in this chapter in the order in which they are listed.

IMPORTANT:

The machine should not require further adjustments; however, perform the following checks and complete the yellow predelivery checklist at the end of this book to ensure your machine operates at maximum performance. Make adjustments only if absolutely necessary and in accordance with the instructions in this manual.

3.19.1 Recording Serial Numbers

1. Record the windrower and engine serial numbers on the *Predelivery Checklist, page 239*, and confirm the serial number with manifest or work order.

   The windrower serial number plate (A) is located on the left side of the main frame near the walking beam as shown.

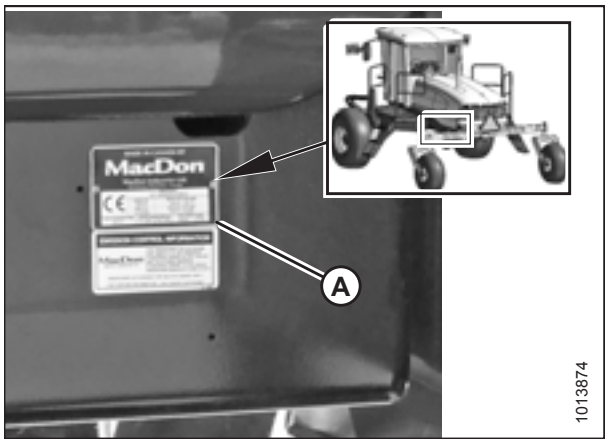


Figure 3.102: Serial Number Location

The engine serial number plate (A) is located on top of the engine cylinder head cover as shown.

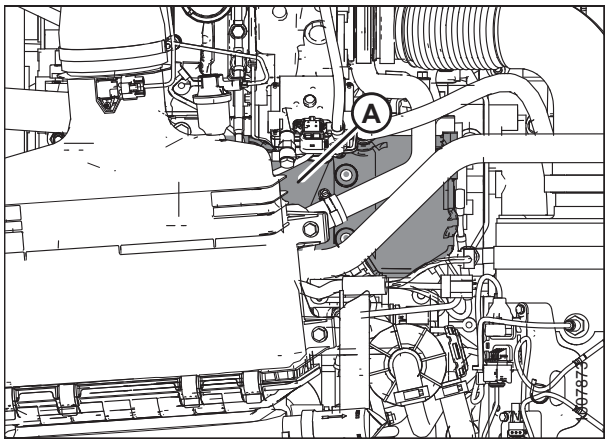


Figure 3.103: Engine Serial Number Location

3.19.2 Checking Tire Pressures

Check tire pressures with a gauge.

Table 3.1 Tire Pressures

Tire Type	Size	Pressure
Bar	18.4–26	317 kPa (46 psi)
	600/65R28	241 kPa (35 psi)
Turf	18.4–26	317 kPa (46 psi)

Table 3.1 Tire Pressures (continued)

Tire Type	Size	Pressure
	23.1–26	234 kPa (34 psi)
Rear Caster	All	69 kPa (10 psi)

3.19.3 Adding Tire Ballast

When using a large header on a windrower, adding fluid ballast to caster tires will improve machine stability. Machine stability is also affected by different attachments, windrower options, terrains, and driving techniques.

Maximum fluid ballast capability per tire is 75% of full, or when fluid is level with the valve stem at 12 o'clock position. Always add an equal amount of fluid on both sides. Fluid can be added to any level up to maximum fill.

Table 3.2 Maximum Fluid per Tire

Tire Size	Fluid per Tire at 75% Fill liters (U.S. Gal.)	Total Weight of Both Tires kg (lb.)[3]
7.5 x 16	38 (10)	91 (200)
10 x 16	69 (18)	170 (380)
16.5 x 16.1	158 (41)	377 (830)

Table 3.3 Recommended Ballast

			Recommended Ballast			
			Level Ground		Hills	
Type	Size	Recommended Tire Size	Per Tire liters (U.S. Gal.)	Both Tires kg (lb.)[4]	Per Tire liters (U.S. Gal.)	Both Tires kg (lb.)[4]
A Series (all options)	All	7.5 x 16 10 x 16 16.5 x 16.1	0	0	0	0
D/D1 Series	7.6 m (25 ft.) and less	7.5 x 16 10 x 16 16.5 x 16.1	0	0	0	0
D/D1 Series	9.1 m (30 ft.) single reel or double reel (without conditioner) 10.7 m (35 ft.) single reel	7.5 x 16 10 x 16 16.5 x 16.1	69 (18)	170 (380)	115 (30)	288 (630)
D/D1 Series	9.1 m (30 ft.) double reel (with steel fingers and conditioner) 10.7 m (35 ft.) double reel (5- or 6-bat)	Level ground: 10 x 16 16.5 x 16.1 Hills: 16.5 x 16.1	115 (30)	288 (630)	158 (41)	377 (830)

3. Weights typical for calcium chloride and water mixtures. Reduce weight by 20% if only water is used (for areas that do not freeze).
4. If only water is used, increase volume of water by 20% (up to maximum allowable fill per tire) to compensate.

Table 3.3 Recommended Ballast (continued)

Type	Size	Recommended Tire Size	Recommended Ballast			
			Level Ground		Hills	
			Per Tire liters (U.S. Gal.)	Both Tires kg (lb.)[5]	Per Tire liters (U.S. Gal.)	Both Tires kg (lb.)[5]
D/D1 Series	12.2 m (40 ft.)	16.5 x 16.1	115 (30)	288 (630)	158 (41)	377 (830)
R/R1 Series (all options)	4 m (13 ft.)	7.5 x 16 10 x 16 16.5 x 16.1	0	0	0	0

3.19.4 Checking Engine Air Intake

1. Ensure clips (A) are properly latched to, and plenum box (C) is securely attached onto cover (B).

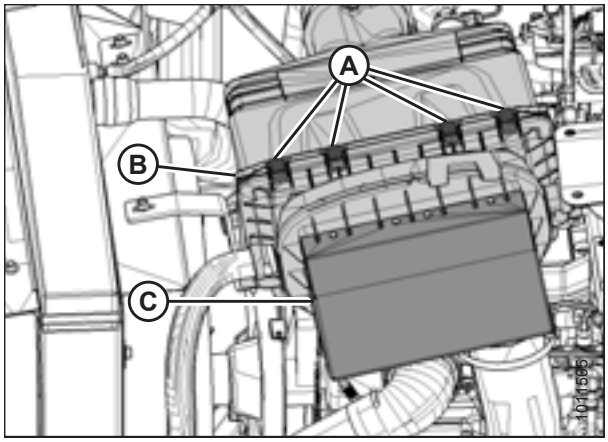


Figure 3.104: Air Intake System

Checking constant torque gaps:

2. Check spring coil gap (A) on constant torque clamp by holding a 0.46 mm (0.018 in.) gauge between the middle coils (B). Tighten clamps until gauge is snug, and remove gauge.

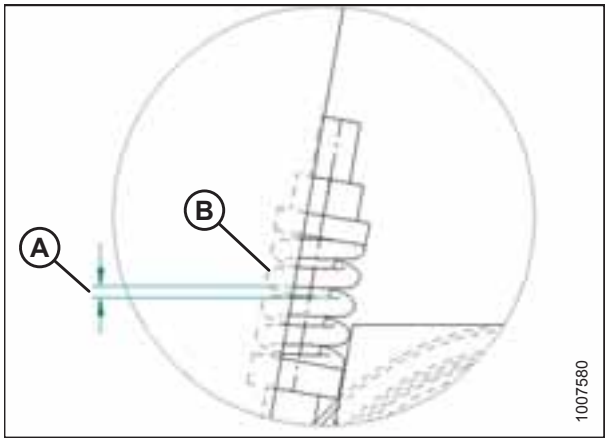


Figure 3.105: Constant Torque Clamp

5. If only water is used, increase volume of water by 20% (up to maximum allowable fill per tire) to compensate.

3. Check four constant torque clamps (A) (two at air intake duct [B] and two at turbocharger tube [C]).

   NOTE:

   Some parts removed from illustration for clarity.

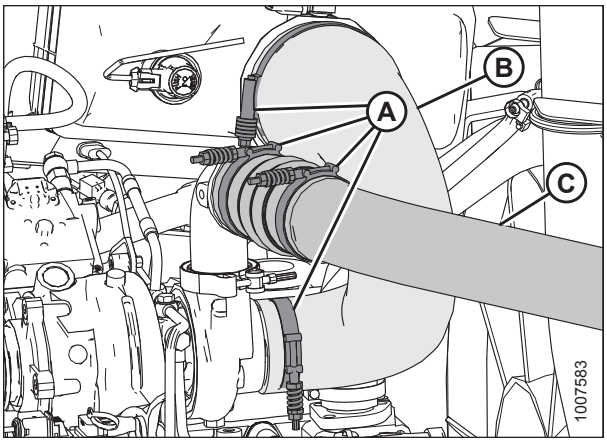


Figure 3.106: Air Intake System

4. Check the constant torque clamps (A) securing tube (B) from the cooler to the engine air intake.

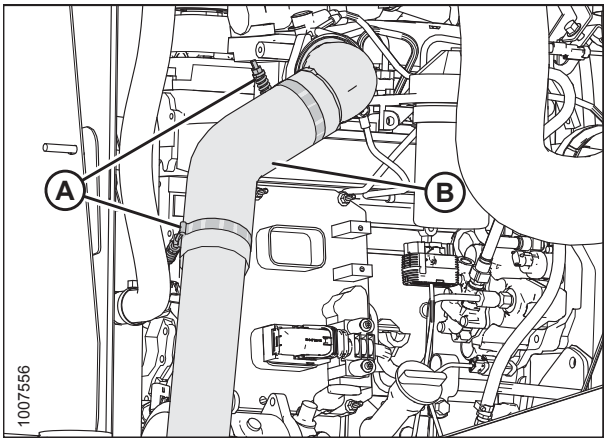


Figure 3.107: Air Intake System

3.19.5 Checking Hydraulic Oil Level

1. Clean filler cap (A) and surrounding area.
2. Turn filler cap (A) counterclockwise to unlock the cap and remove the dipstick.

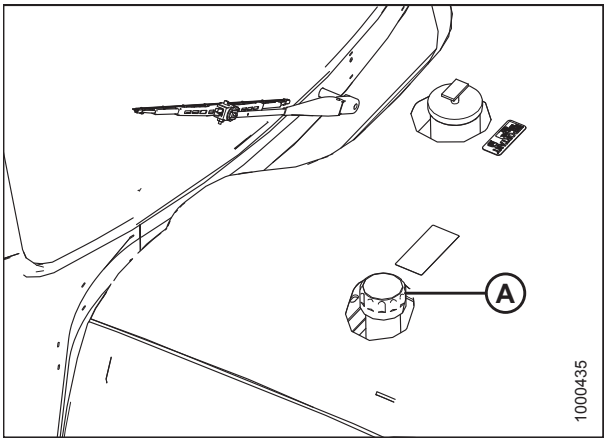


Figure 3.108: Engine Hood

3. Ensure hydraulic oil level is between the low (L) and high (H) marks.
4. If necessary, add oil to maintain a level between the low (L) and high (H) marks. Refer to Table *7.16, page 236* for specifications.
5. Reinstall the dipstick and filler cap, and turn clockwise to tighten and lock.

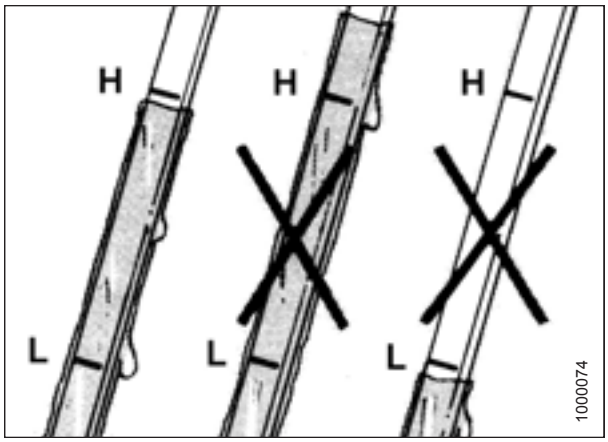


Figure 3.109: Hydraulic Oil Levels

3.19.6 Checking Fuel Separator

1. Place a container under filter drain valve (A).
2. Turn drain valve (A) by hand 1 1/2 to 2 turns counterclockwise until fuel begins draining.
3. Drain the filter sump of water and sediment until clear fuel is visible. Clean as necessary.
4. Turn drain valve (A) by hand 1 1/2 to 2 turns clockwise until tight.
5. Dispose of fluid in a safe manner.

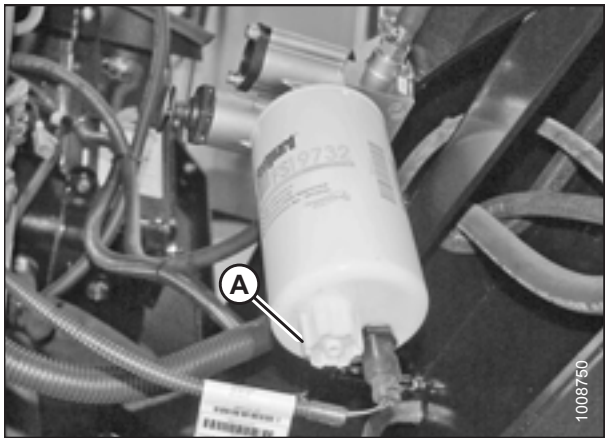


Figure 3.110: Fuel Filter

3.19.7 Checking Engine Oil Level

1. Remove dipstick (A) by turning it counterclockwise to unlock.
2. Wipe the dipstick clean and reinsert it into the engine.
3. Remove the dipstick again and check the oil level.

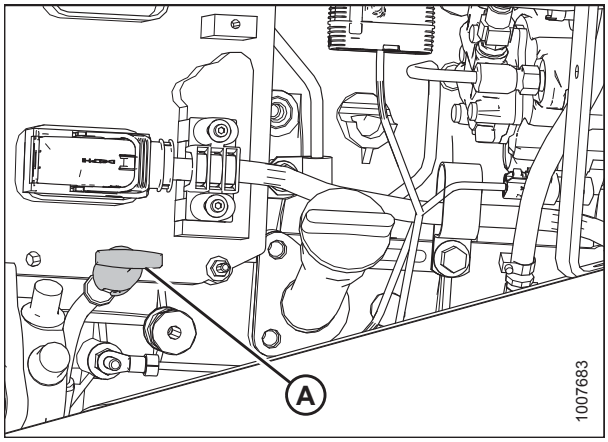


Figure 3.111: Engine Oil Level

4. Add oil if level is below low (L) mark.

   IMPORTANT:

   Oil level should be maintained between low (L) and high (H) mark on the dipstick.

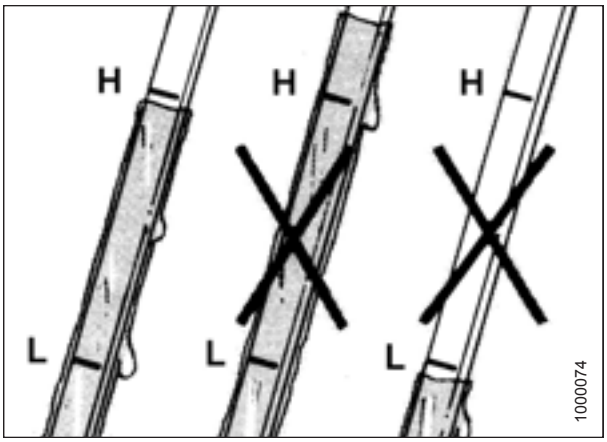


Figure 3.112: Engine Oil Level

5. Replace dipstick (A) and turn it clockwise to lock.

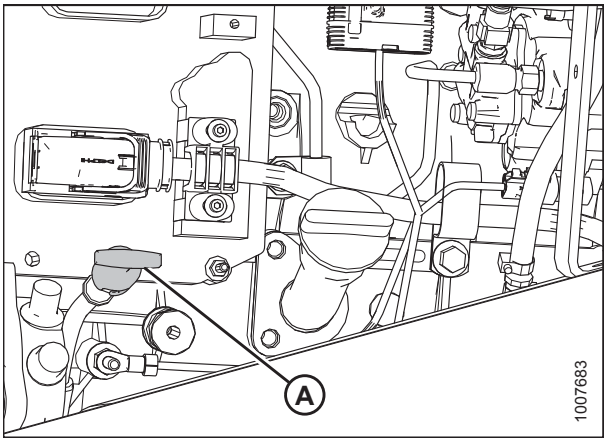


Figure 3.113: Engine Oil Level

3.19.8 Checking Gearbox Lubricant Level

1. Locate gearbox oil level check plug (A) under the machine. Remove plug (A) and ensure lubricant is visible or slightly running out.
2. If lubricant is required, add gearbox oil. Refer to Table *7.16, page 236* for specifications.
3. Replace plug (A) and tighten.

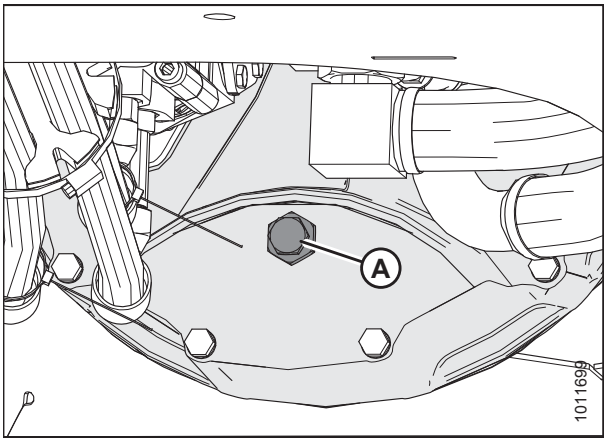


Figure 3.114: Gearbox

3.19.9 Checking Engine Coolant

1. Visually inspect the coolant level in the pressurized coolant tank (A).

   NOTE:

   Allow the engine to cool before checking the coolant level. The pressurized coolant tank has MAX COLD and MIN COLD coolant level indicators (B), and coolant levels should be between these lines.

2. If necessary, add coolant. Refer to Table *7.16, page 236* for specifications.

3. Ensure coolant concentration in the radiator is rated for -34°C (-30°F).

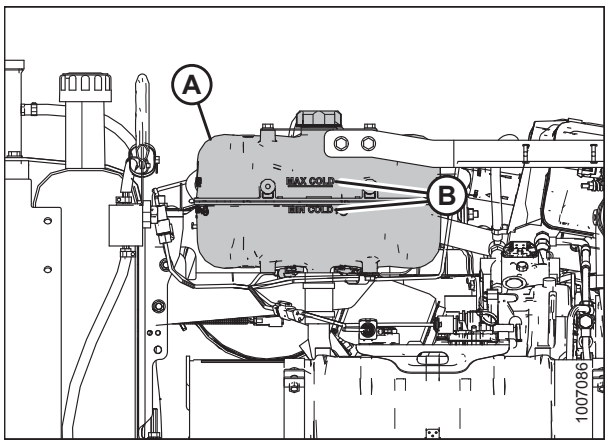


Figure 3.115: Pressurized Coolant Tank

3.19.10 Checking Air Conditioning Compressor Belt

1. Ensure A/C compressor belt (A) is tensioned so that a force of 35–55 N (8–12 lbf) on the belt deflects the belt 5 mm (3/16 in.) at its midspan.

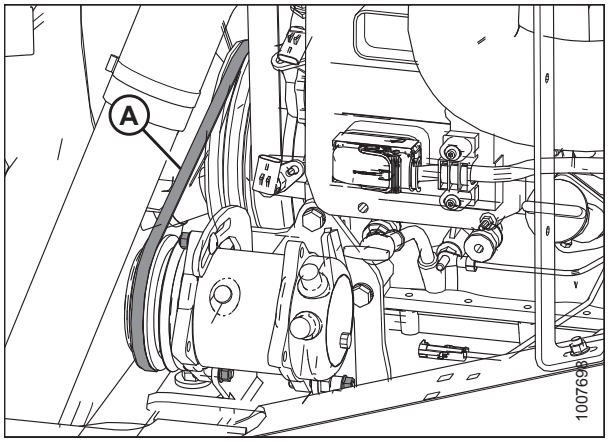


Figure 3.116: A/C Compressor Belt

3.19.11 Replacing the Diesel Exhaust Fluid

Drain the diesel exhaust fluid (DEF) tank and refill with fresh DEF when the windrower is received.

1. Move the platform on the right cab-forward side of machine to the open position.

2. Place a drain pan under the DEF tank. Use a sufficiently large drain pan; tank capacity is 29 L (7.5 US gal).

   IMPORTANT:

   Any spilled DEF must be contained and absorbed by non-combustible absorbent material like sand, and then shoveled to a suitable container for disposal. DEF is corrosive. If spilled on tank or any surface of the vehicle, rinse thoroughly with water.

WARNING

Diesel Exhaust Fluid (DEF) contains urea. Do NOT get the substance in your eyes. In case of contact, immediately flush eyes with water for a minimum of 15 minutes. Do NOT swallow. In the event the DEF is ingested, contact doctor immediately.

3. Remove drain plug (A) from under tank (B) and drain.
4. Add some DEF to tank (B) to flush out remaining contaminants.
5. Drain the DEF that was used to clean the tank.
6. Reinstall drain plug (A) in tank (B).

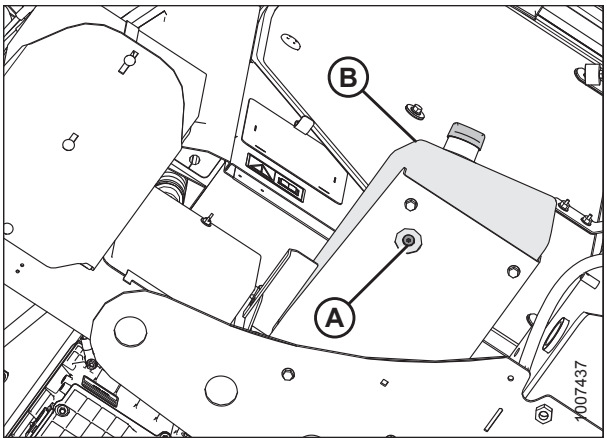


Figure 3.117: View from beneath Tank

IMPORTANT:

Before refilling the DEF tank, read the following instructions from decal (A) located on the tank cover:

- Before storing the machine for longer than six months, drain the DEF tank to prevent degradation of fluid.
- Before storing the machine in temperatures below 0°C (32°F), ensure the level of fluid in the DEF tank is 75 % or lower.

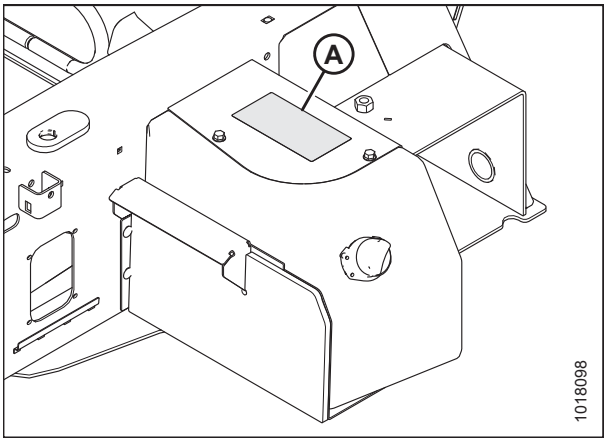


Figure 3.118: DEF Tank

Take the following precautions when handling DEF to prevent contamination:

- Avoid using funnels and containers that have been used with fuels or lubricants.
- Use only distilled water to rinse the components that store or deliver DEF; tap water can contaminate DEF.
- If distilled water is not available, use clean tap water, then rinse components with DEF.

7. Clean around filler cap (A).
8. Turn cap (A) counterclockwise until loose and remove the cap.
9. Fill the tank with an approved DEF. Refer to the windrower operator's manual for specifications.
10. Replace filler cap (A) and turn it clockwise until it is tight.
11. Close the maintenance platform.

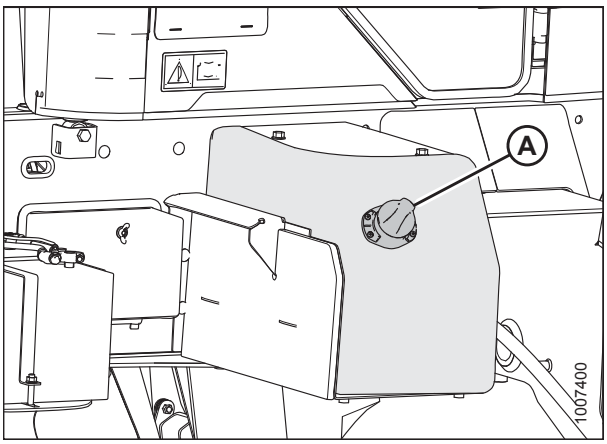


Figure 3.119: DEF Tank

3.19.12 Starting Engine

CAUTION

Park on a flat, level surface with the ground speed lever (GSL) in N-DETENT position and the steering wheel in locked position (centered). Wait for the cab display module (CDM) to beep and display an "In Park" message to confirm the park brakes have engaged.

1. Ensure there is sufficient diesel exhaust fluid (DEF) to avoid DEF level warnings.
2. Ensure lock (A) is engaged at the cab-forward or engine-forward position.

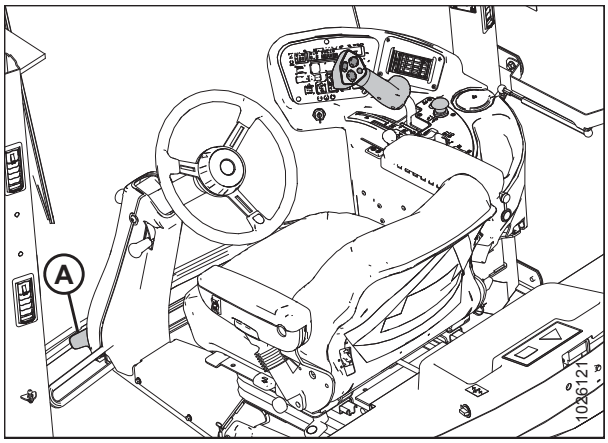


Figure 3.120: Operator Console

3. Move GSL (A) into the N-DETENT position.
4. Turn the steering wheel until it locks (center).
5. Push header drive switch (B) to the OFF position.

CAUTION

Check to be sure all bystanders have cleared the area.

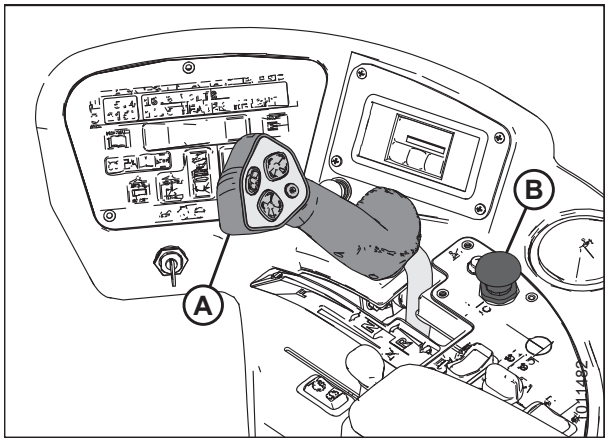


Figure 3.121: Operator Console

Normal start (all engines):

6. Follow these steps when starting engine in temperatures above 16°C (60°F):

   a. Move throttle fully back to START position (A).

   b. Sound horn three times.

   c. Turn ignition key (B) to RUN position.

      NOTE:

      A single loud tone will sound, engine warning lights will illuminate, and the cab display module will display HEADER DISENGAGED and IN PARK.

   d. Turn ignition key (B) to START position until engine starts and then release the key. The tone will cease and warning lights will go out.

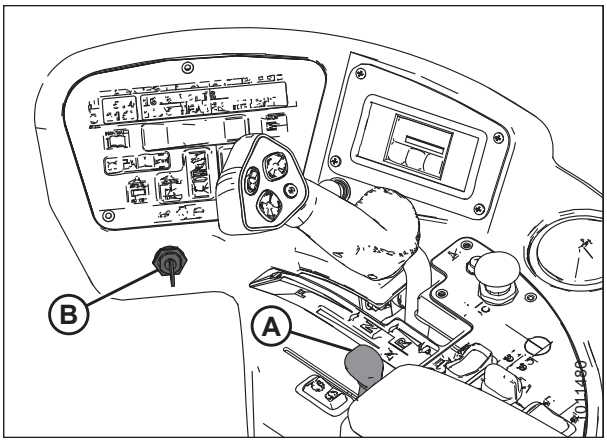


Figure 3.122: Operator Console

WARNING

If starter engages with steering wheel unlocked, ground speed lever out of NEUTRAL, or header clutch engaged, do NOT start engine. Refer to the technical manual.

IMPORTANT:

- Do **NOT** operate starter for longer than 15 seconds at a time.
- If the engine does **NOT** start, wait at least 2 minutes before trying again.
- After the third 15-second crank attempt, allow the starter motor to cool for 10 minutes before further cranking attempts.
- If the engine still does **NOT** start, refer to Table *3.4, page 88*.

Cold start:

NOTE:

Engines are equipped with cold start assist system.

7. When the engine temperature is below 5°C (40°F), follow the procedure for a normal start. Refer to Step *6, page 87*, but adhere to the following *NOTE* and *IMPORTANT* statements while starting the engine.

   NOTE:

   Engine will cycle through a period when it appears to labour during engine warm up. The throttle is nonresponsive while engine is in warm up mode. Warm up mode lasts between 30 seconds and 3 minutes depending on the temperature. The throttle will become active after the engine has stabilized and is idling normally.

   IMPORTANT:

   Do **NOT** operate engine above 1500 rpm until engine temperature is above 40°C (100°F).

Table 3.4 Engine Start Troubleshooting

Problem	Solution
Controls not in NEUTRAL	• Move GSL to NEUTRAL • Move steering wheel to locked (centered) position • Disengage HEADER switch
Operator's station not locked	• Adjust position of operator's station • Ensure lock is engaged
Neutral interlock misadjusted	• Refer to the windrower technical manual
No fuel to engine	• Fill empty fuel tank • Replace clogged filter • Ensure fuel shut off valve is in open position
Old fuel in tank	• Drain tank • Refill with fresh fuel
Water, dirt, or air in fuel system	• Drain, flush, fill, and prime system
Improper type of fuel	• Drain tank • Refill with correct fuel
Crankcase oil too heavy	• Replace with recommended oil
Low battery output	• Test the battery • Check battery electrolyte level
Poor battery connection	• Clean and tighten loose connections
Faulty starter	• Refer to the windrower technical manual
Wiring shorted, circuit breaker open	• Check continuity of wiring and breaker (manually reset)
Faulty injectors	• Refer to the windrower technical manual

3.19.13 Priming Hydraulic System

1. Remove hydraulic oil reservoir filler cap / dipstick (A).
2. Open the engine compartment hood to the highest position.

Figure 3.123: Filler Cap

3. From underneath the machine, locate plug (A) on the side of the header drive pump housing.
4. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.

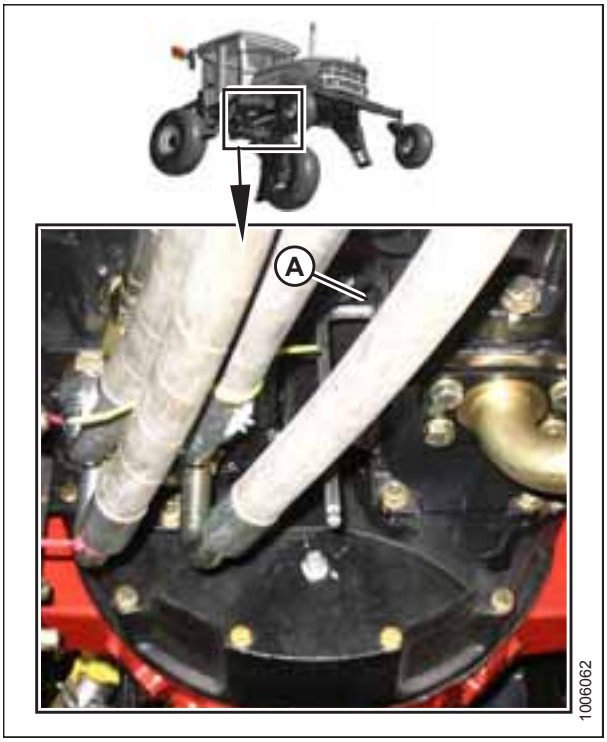


Figure 3.124: Header Drive Pump Housing

5. From above the machine, locate plug (A) on the top of the header drive pump housing.
6. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.

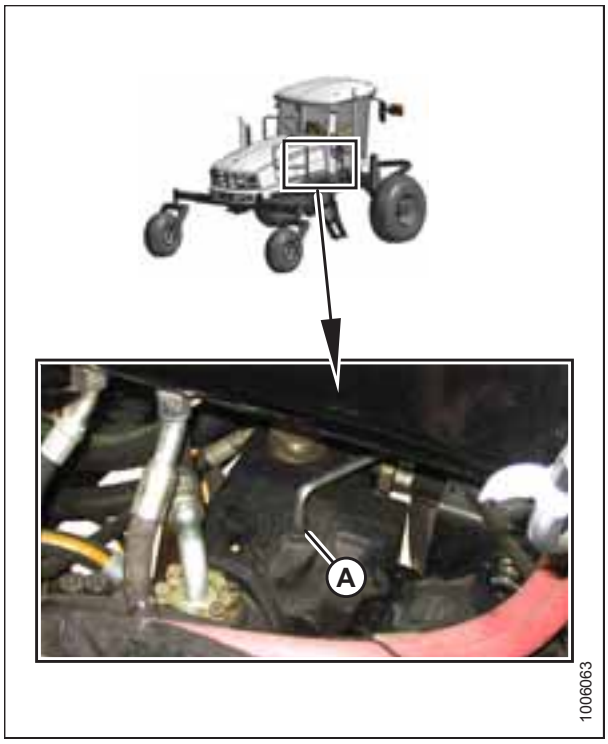


Figure 3.125: Header Drive Pump Housing

7. From above the machine, locate plug (A) on the top of the traction drive pump housing.
8. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.
9. Replace the hydraulic oil reservoir filler cap.

Figure 3.126: Traction Drive Pump Housing

10. Open the left (cab-forward) platform.
11. Disconnect brake engage solenoid plug (P44) (A) at the multifunction block on the left side of the windrower.

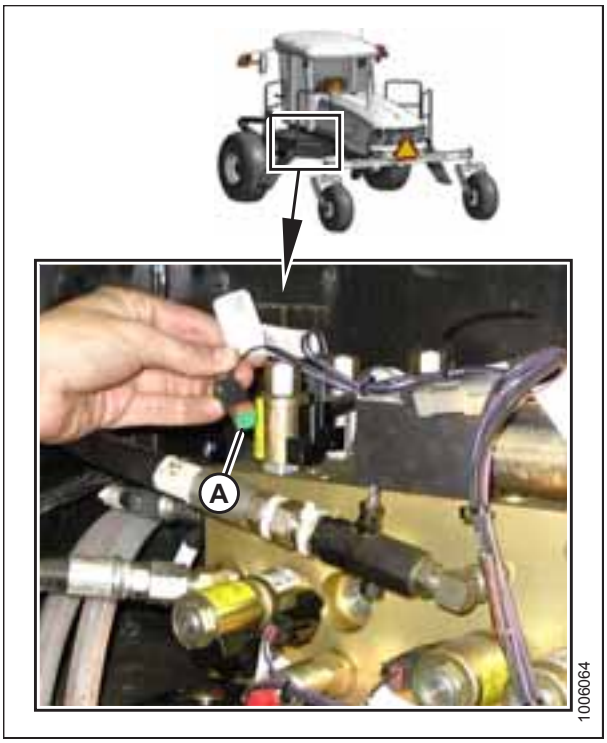


Figure 3.127: Multifunction Control Manifold

12. Disconnect electrical connection (A) at the fuel pump on the right side of the engine.

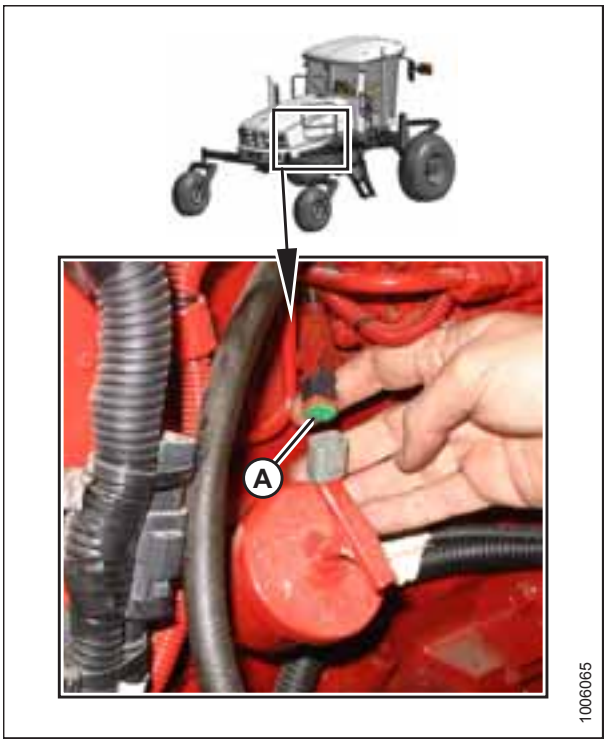


Figure 3.128: Fuel Pump Location

13. Open the maintenance platform on the right (cab-forward) side.
14. Open fuse cover (A).

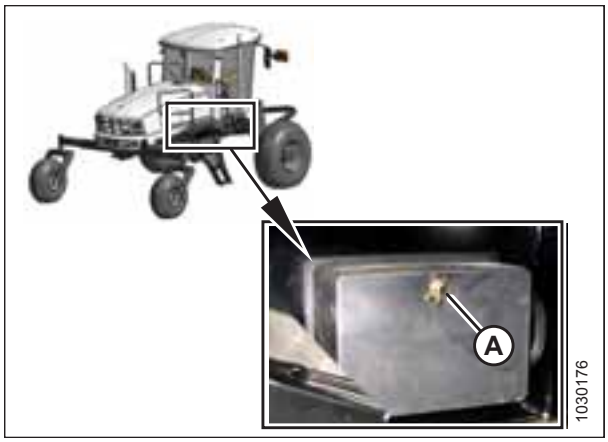


Figure 3.129: Fuse Cover

15. Remove ignition power fuse (15A) (A).

CAUTION

Check to be sure all bystanders have cleared the area.

16. Prime the system by cranking the engine with the starter for 15 seconds.

IMPORTANT:

Reconnect the electrical connection at the fuel pump and at the brake engage solenoid.

17. Reinstall ignition power fuse (15A) (A) and the fuse cover.
18. Close the engine compartment hood.

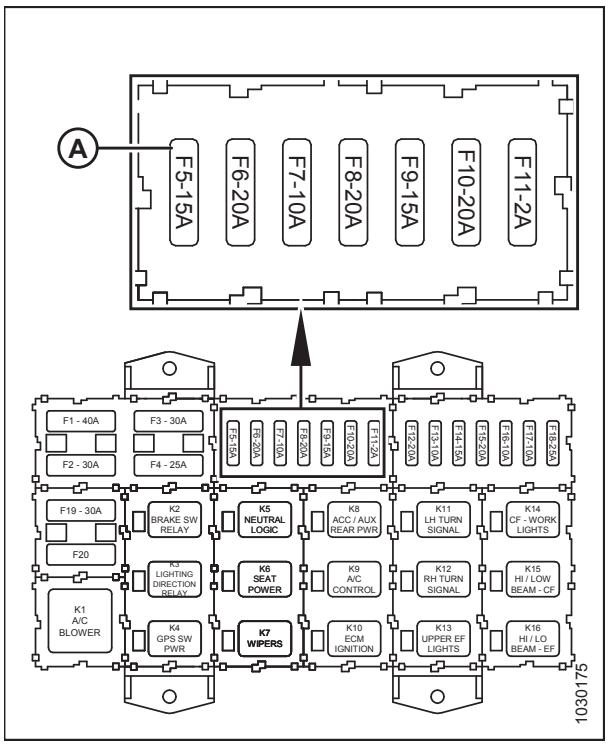


Figure 3.130: Fuse Panel

19. Check the hydraulic oil level in the reservoir (remove filler cap / dipstick (A) and add SAE 15W-40 oil if necessary). Refer to *3.19.5 Checking Hydraulic Oil Level, page 81*.
20. Close the platforms.

Figure 3.131: Filler Cap

3.19.14 Checking and Adding Wheel Drive Lubricant

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

CAUTION

Park on a flat, level surface with the header on the ground, the ground speed lever (GSL) in N-DETENT position, and the steering wheel in locked position (centered). Wait for the combine display module (CDM) to beep and display an "In Park" message to confirm the park brakes have engaged.

1. Park the windrower on level ground.
2. Position windrower so plugs (A) and (B) are horizontally aligned with hub center (C).
3. Shut down the engine, and remove the key from the ignition.
4. Remove plug (A) or (B). The lubricant should be visible through the port or running out slightly.
5. If lubricant needs to be added, remove the second plug (A) or (B), and add lubricant until lubricant runs out from the first port (A) or (B). For lubricant specifications, refer to *7.4 Lubricants, Fluids, and System Capacities, page 236*.
6. Reinstall plugs and tighten.

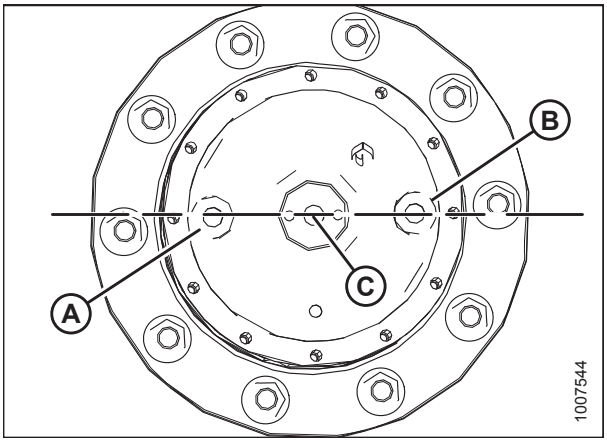


Figure 3.132: Drive Wheel Hub

3.19.15 Checking Traction Drive

CAUTION

Check to be sure all bystanders have cleared the area.

NOTE:

One person can perform this task.

1. Move ground speed lever (GSL) (A) out of N-DETENT and slowly move the GSL forwards. Ensure wheels are rotating in the forward direction and at the same speed.
2. Turn the steering wheel and observe the motion of the drive wheels. Ensure the wheels rotate at different speeds with the slower rotating wheel on the same side of machine that the steering wheel is turned toward.
3. Turn the steering wheel in the opposite direction and ensure the slower rotating wheel is on the same side of the machine that the steering wheel is turned toward.
4. Move the GSL backwards into reverse. Ensure the wheels are rotating in the reverse direction and at the same speed.
5. Move the GSL forward into N-DETENT, and shut down the engine.

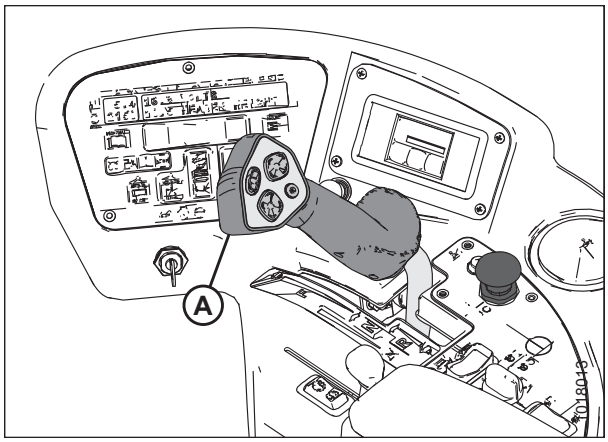


Figure 3.133: Operator Console

3.20 Removing Windrower from Stand

The procedure for removing the windrower from the support stand differs depending on whether you are using a factory-built stand or a field-constructed stand. Refer to the following procedures according to for your specific stand:

- *3.20.1 Removing Windrower from Factory Stand, page 95*
- *3.20.2 Removing Windrower from Field Stand, page 95*

3.20.1 Removing Windrower from Factory Stand

1. Move valve handle (A) upwards to slightly raise the windrower and take load off the lift locks.

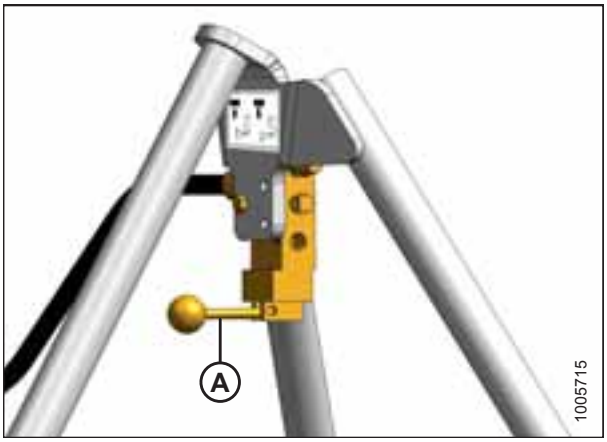


Figure 3.134: Air Control Valve Tripod

2. Release three lift lock mechanisms (A) and turn the keeper to keep the lock in the released position.
3. Move the valve handle downwards to slowly release the pressure from the air bag system and lower the windrower to the ground.

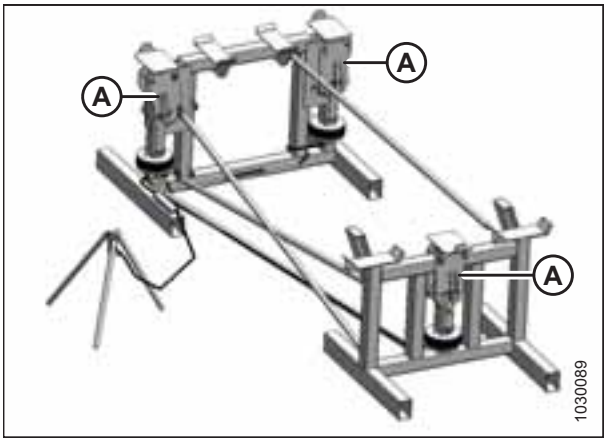


Figure 3.135: Lift System

CAUTION

Check to be sure all bystanders have cleared the area.

CAUTION

Ensure all three lifts have fully retracted and are clear of the windrower frame before driving windrower ahead.

4. Start the engine and drive the machine straight ahead, leaving the shipping support channels supported on the rear support stand.

3.20.2 Removing Windrower from Field Stand

1. Position a jack under the jack point of each drive wheel leg and under the rear hitch.
2. Raise jacks to take the weight off the stands, and remove stands.
3. Lower windrower slowly to the ground, and remove jacks.

Chapter 4: Cab Display Module

Although the other procedures in this instruction are intended to be followed in the order in which they are listed, the sections in this chapter can be referred to in any order according to your specific requirements.

4.1 Cab Display Module – Configuration Functions

The configuration functions accessible from the cab display module (CDM) are shown and explained below.

Figure 4.1: CDM

A - Side Display
B - Main Display
C - Select Switch
D - Menu Item Scroll Forward
E - Menu Item Scroll Backward
F - Program Switch

Side Display: Displays software revision status.

- Upper line – C### (CDM)
- Lower line – E### (WCM)

Main Display: Displays menu item and selection[6].

- Upper line – Menu item
- Lower line – Selection

Select Switch: Places monitor into program mode with PROGRAM switch. Press to accept menu item and advance to next item.

6. The current selection flashes.

Menu Item Scroll Forward: Displays value under menu item.

- Push to scroll forward
- Hold down for fast scroll[7]

Menu Item Scroll Backward: Displays value under menu item.

- Push to scroll backward
- Hold down for fast scroll[7]

Program Switch: Places monitor into program mode. Press while pressing select switch.

NOTE:

The following menus are available when ignition key is set to RUN:

- WINDROWER SETUP
- CAB DISPLAY SETUP
- DIAGNOSTIC MODE

The CALIBRATE SENSORS menu is available only when engine is running.

7. Fast scroll applies only when changing KNIFE SPEED, OVERLOAD PRESSURE, and TIRE SIZE.

4.2 Cab Display Options

The display and sound features of the cab display module (CDM) are adjustable.

NOTE:

The following procedures are current for CDM software version C512 and windrower control module (WCM) E237. The WCM is supplied preloaded with the latest released version of the operating software. Any subsequent updates will be made available via internet download from the MacDon Dealer Portal *(https://portal.macdon.com)*.

NOTE:

CDM pages may appear differently if running newer or older versions of software, and not all features are available on every machine.

4.2.1 Setting the Cab Display Language

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.2: Windrower Setup Display

3. Press SELECT (A) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.3: Cab Display Setup

4. Press right arrow (C) to select YES. Press SELECT (D).
   - DISPLAY LANGUAGE? is displayed on the upper line.
   - Default language is displayed on the lower line.
5. Press left arrow (B) or right arrow (C) to select preferred language.

   NOTE:

   Language options that may be available are English, Russian, and Spanish.
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

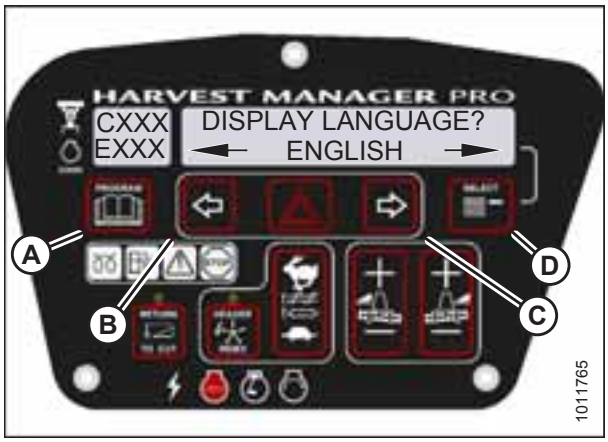


Figure 4.4: Language Display

4.2.2 Changing the Windrower Display Units

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

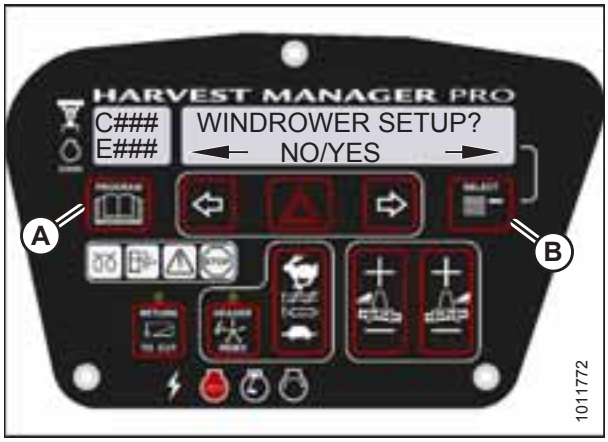


Figure 4.5: CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

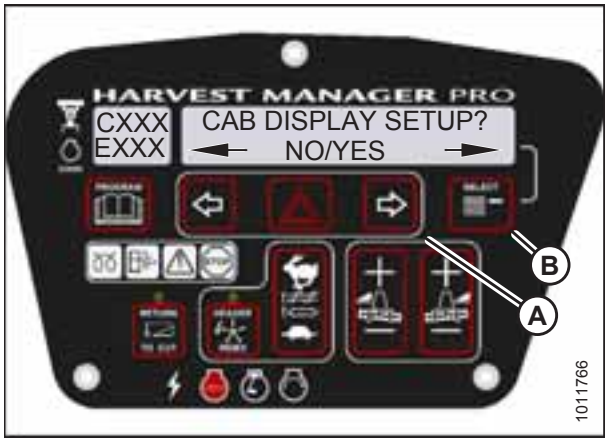


Figure 4.6: Cab Display Setup

5. Press SELECT (D) until DISPLAY UNITS? is displayed on the upper line.
   - Default setting is displayed on the lower line.
6. Press left arrow (B) or right arrow (C) to select either METRIC or IMPERIAL speed display.
7. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

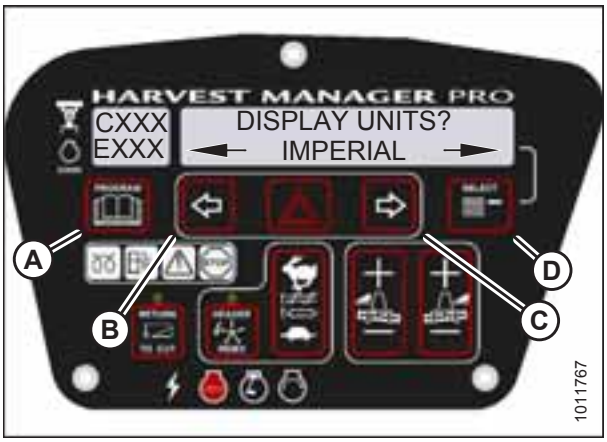


Figure 4.7: Display Units

4.2.3 Adjusting the Cab Display Buzzer Volume

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.8: CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

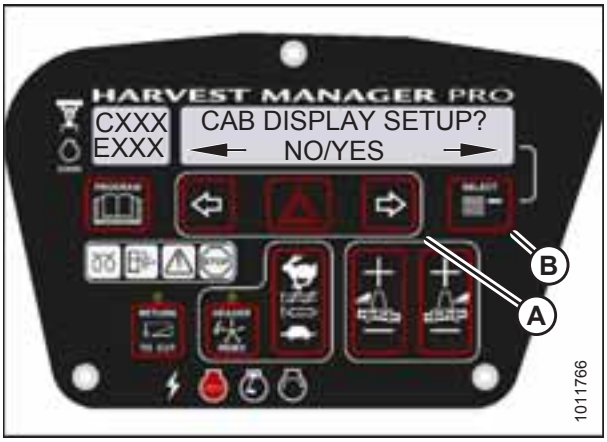


Figure 4.9: Cab Display Setup

5. Press SELECT (D) until BUZZER VOLUME is displayed on the upper line.
   - Previous setting is displayed on the lower line.
6. Press left (B) or right (C) arrows to adjust buzzer volume.
7. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

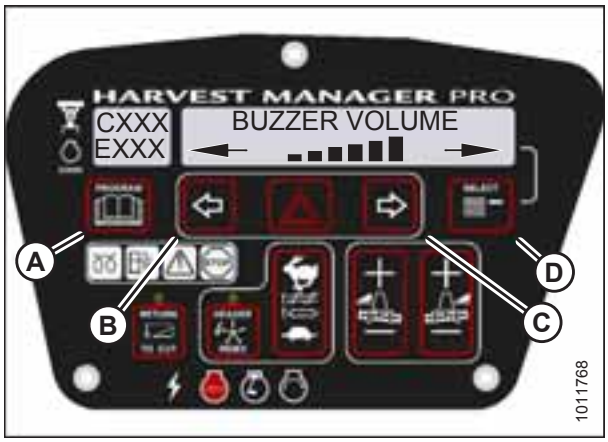


Figure 4.10: Buzzer Volume

4.2.4 Adjusting the Cab Display Backlighting

The backlighting feature brightens the display screen helping you read the cab display module (CDM) in low light situations.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

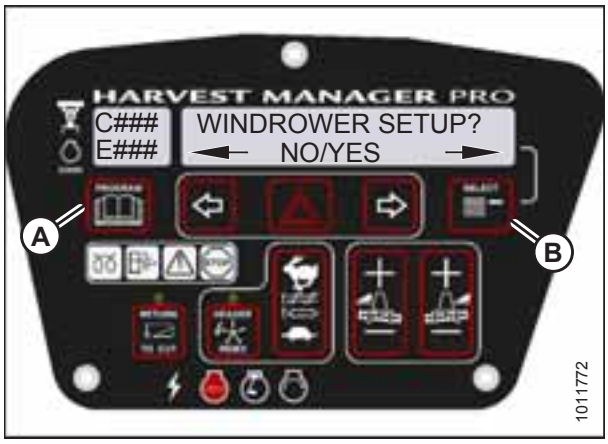


Figure 4.11: CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

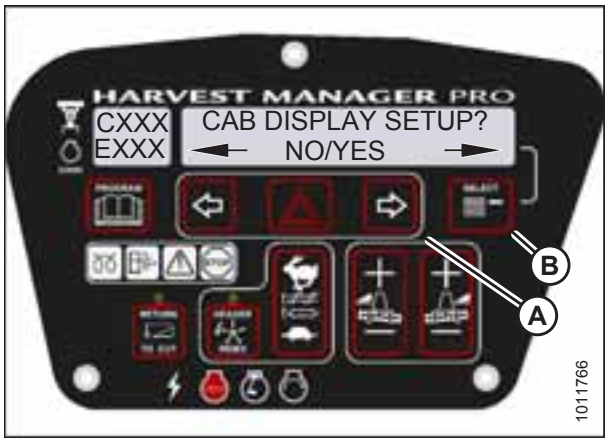


Figure 4.12: Cab Display Setup

5. Press SELECT (D) until BACKLIGHTING is displayed on the upper line.
   - Default setting is displayed on the lower line.
6. Press left (B) or right (C) arrows to adjust display backlighting.
7. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

Figure 4.13: Display Backlighting Setting

4.2.5 Adjusting the Cab Display Contrast

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.14: CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

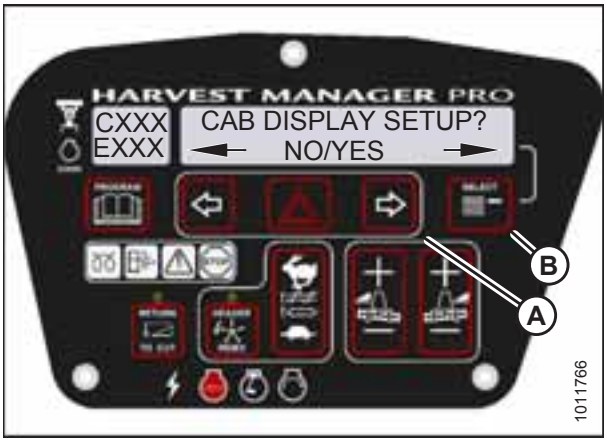


Figure 4.15: Cab Display Setup

5. Press SELECT (D) until DISPLAY CONTRAST is displayed on the upper line.
   - Default setting is displayed on the lower line.
6. Press left (B) or right (C) arrows to adjust display contrast.
7. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

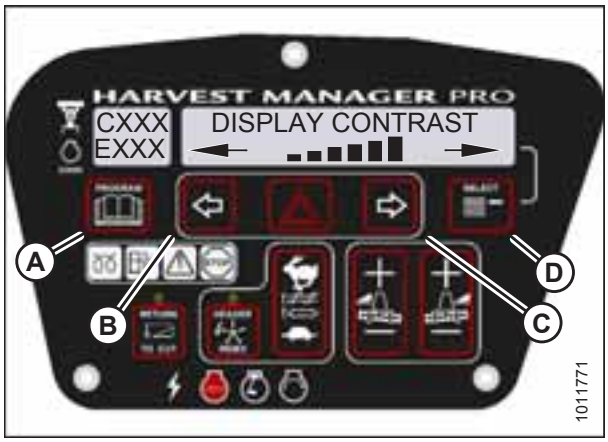


Figure 4.16: Display Contrast Setting

4.3 Configuring the Windrower

The windrower can be configured to meet changing crop conditions, activate newly added options, indicate a change of header type, or increase operator comfort level.

4.3.1 Setting the Header Knife Speed

This topic does not apply to rotary disc headers.

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.
   - The current knife speed is displayed on the lower line.

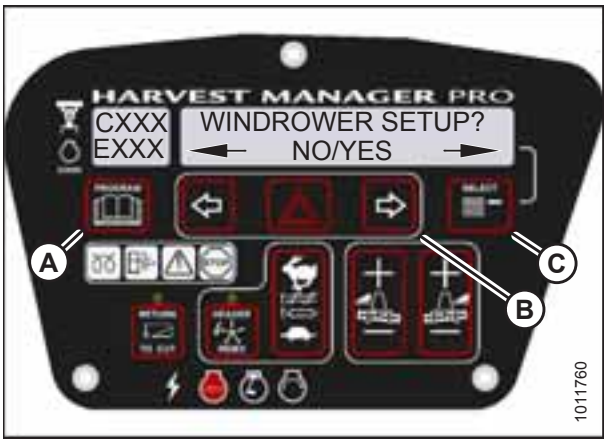


Figure 4.17: CDM Programming Buttons

4. Press left (B) or right (C) arrows to select knife speed. Press SELECT (D).
5. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

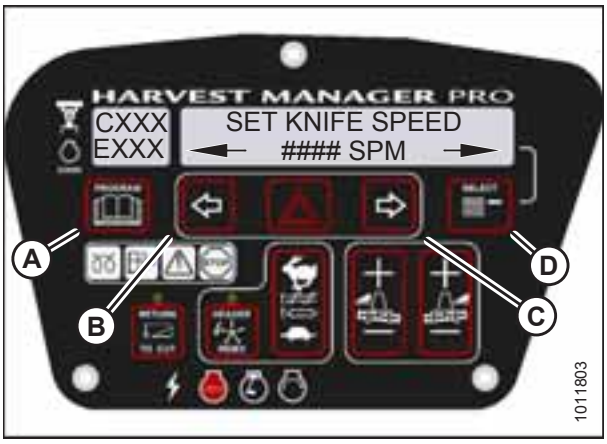


Figure 4.18: Knife Speed Setting

4.3.2 Setting the Knife Overload Speed

When the knife speed drops below the knife overload speed setting , this indicates the knife drive is overloaded, and a warning is displayed on the cab display module (CDM). The knife overload speed is set at 75% of knife speed.

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module automatically adjusts its programming for each header.
- The recommended knife overload speed is 75% of knife speed.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

Figure 4.19: CDM Programming Buttons

4. Press SELECT (D) until KNIFE OVERLOAD SPD? is displayed on the upper line.
   - Current overload speed is displayed on the lower line.

   NOTE:

   Default setting is -300 spm. Range is -500 to -100 spm.
5. Press left (B) or right (C) arrows to set knife overload speed. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

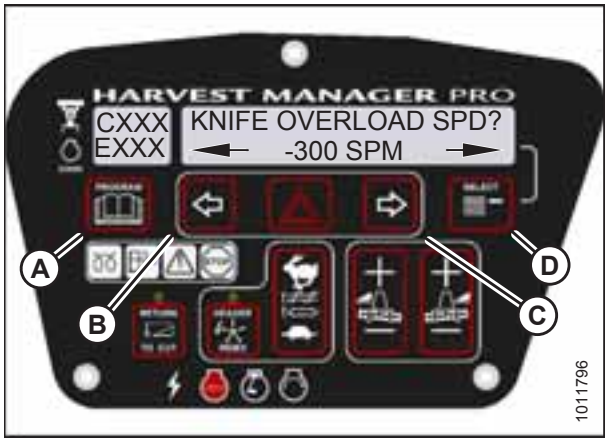


Figure 4.20: Knife Overload Speed

4.3.3 Setting the Rotary Disc Overload Speed

This topic applies to rotary disc headers only.

When the rotary disc overload speed drops below the disc overload speed setting , this indicates the disc drive is overloaded, and a warning is displayed on the cab display module (CDM). The disc overload speed is set at 75% of knife speed.

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The recommended disc overload speed is 75% of disc speed. For more information, refer to the rotary disc header operator's manual to determine proper overload speed.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line. NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

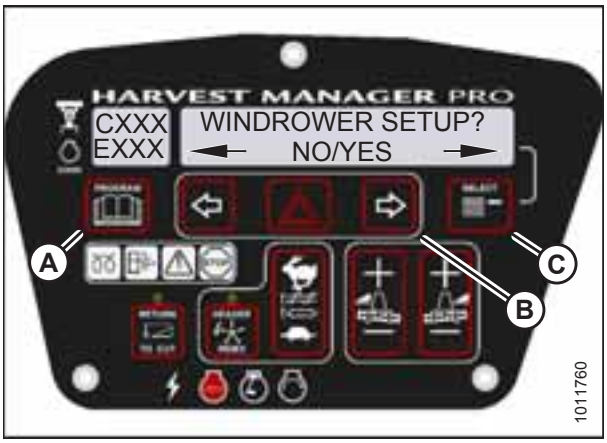


Figure 4.21: CDM Programming Buttons

4. Press SELECT (D) until DISC OVERLOAD SPD? is displayed on the upper line.
   - The current overload speed is displayed on the lower line.

   NOTE:

   Default setting is -300 rpm. Range is -500 to -100 rpm.
5. Press left (B) or right (C) arrows to set disc overload speed. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

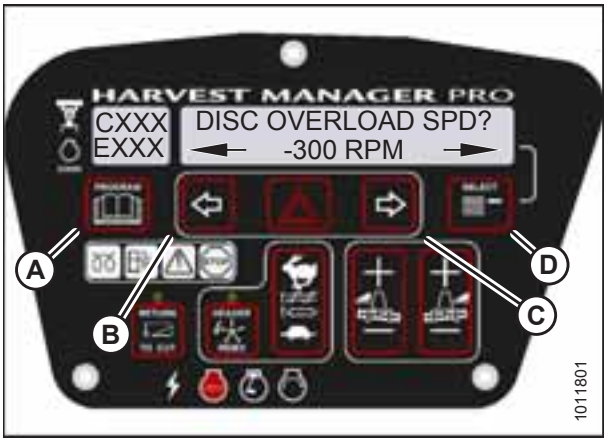


Figure 4.22: Disc Overload Speed

4.3.4 Setting the Hydraulic Overload Pressure

The hydraulic overload pressure setpoint sets the upper limit of the pressure bar graph, which displays when the optional pressure sensor is enabled.

NOTE:

- This procedure requires installation of the optional pressure sensor (MD #B5574). For overload pressure values, refer to pressure sensor installation instructions (MD #169031).
- To enable sensor, refer to *4.8.2 Switching the Installed Header Sensors ON or OFF, page 143*.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

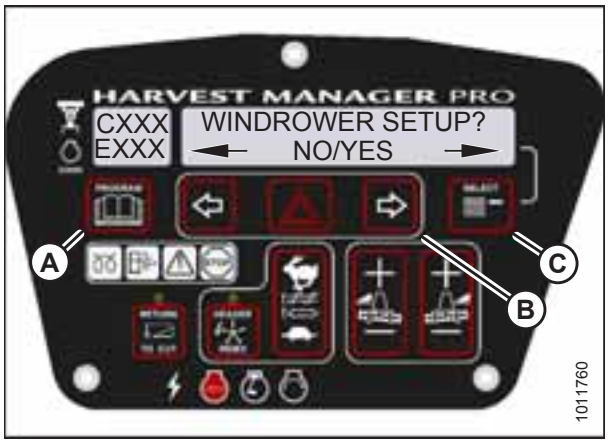


Figure 4.23: CDM Programming Buttons

4. Press SELECT (D) until OVERLOAD PRESSURE? is displayed on the upper line.
   - The current overload pressure is displayed on lower line.

   NOTE:

   Pressure range is 17,237–34,474 kPa (2500–5000 psi).
5. Press left (B) or right (C) arrows to set hydraulic overload pressure. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

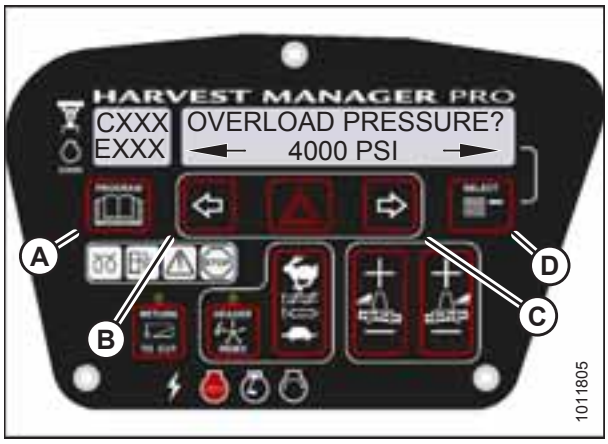


Figure 4.24: Hydraulic Overload Pressure

4.3.5 Setting the Header Index Mode

Index mode links reel and draper speed to ground speed. This feature is not applicable to rotary disc headers.

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

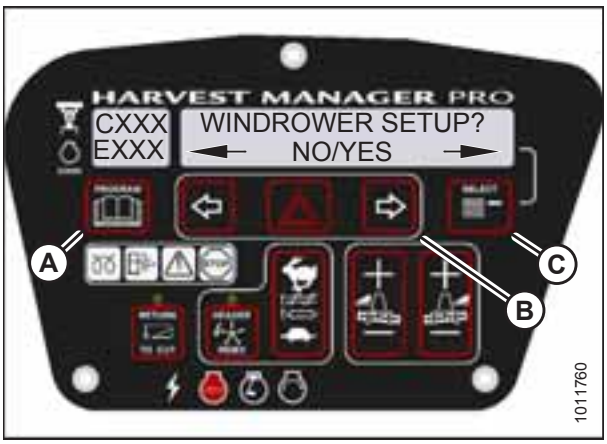


Figure 4.25: CDM Programming Buttons

4. Press SELECT (D) until HEADER INDEX MODE? is displayed on the upper line.
   - REEL & CONVEYOR or REEL ONLY is displayed on the lower line.
5. Press left (B) or right (C) arrows to set HEADER INDEX mode. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

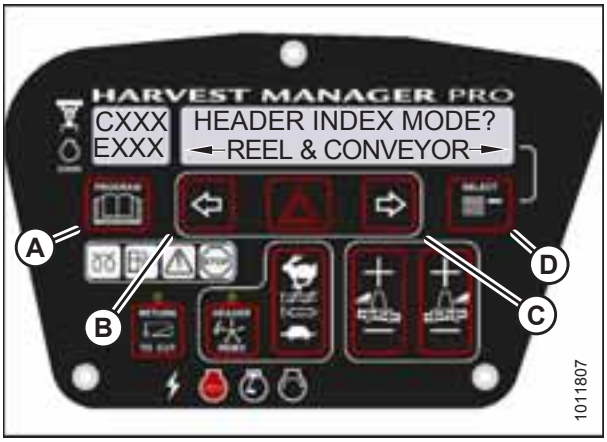


Figure 4.26: Header Index Mode

4.3.6 Setting the Return to Cut Mode

Return to Cut allows the Operator to resume preferred header positions and headland presets.

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.

2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

Figure 4.27: CDM Programming Buttons

4. Press SELECT (D) until RETURN TO CUT MODE? is displayed on the upper line.
   - HEIGHT & TILT or HEIGHT ONLY will be displayed on the lower line.
5. Press left (B) or right (C) arrows to select RETURN TO CUT MODE. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

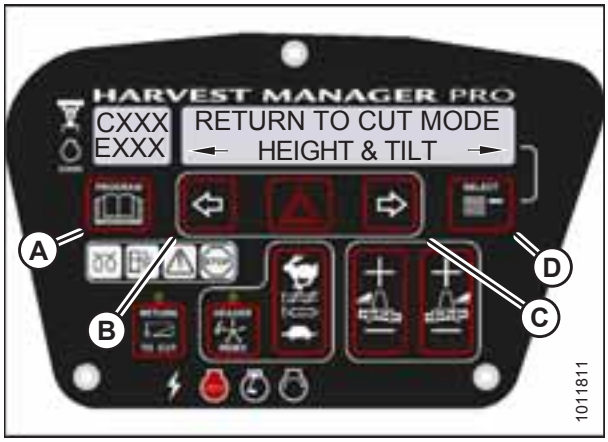


Figure 4.28: Return to Cut Mode

4.3.7 Setting the Auto Raise Height

Auto Raise Height allows the Operator to raise the header to a preset height by double-clicking the HEADER UP switch on the ground speed lever.

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

Figure 4.29: CDM Programming Buttons

4. Press SELECT (D) until AUTO RAISE HEIGHT? is displayed on the upper line.
   - Last measurement is displayed on the lower line.

   NOTE:

   The auto raise height ranges from 4.0 (minimum) to 9.5 (maximum), in 0.5 increments. A setting of 10 disables the auto raise function.
5. Press left arrow (B) or right arrow (C) to change auto raise height.
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

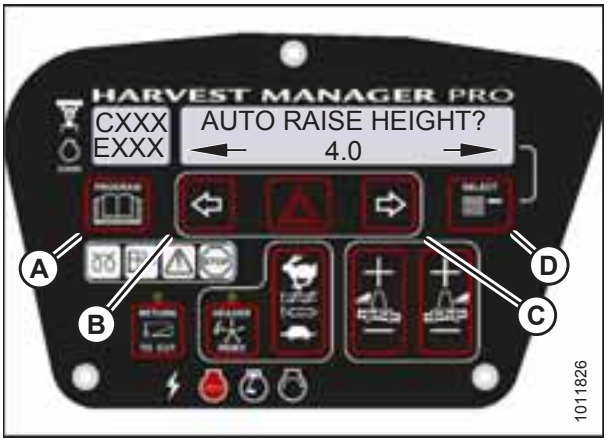


Figure 4.30: Auto Raise Height

4.3.8 Activating the Double Windrow Attachment

Follow this procedure if installing the Double Windrow Attachment (DWA); however, refer to the DWA manual if you require additional installation instructions.

NOTE:

- The DWA cannot be activated if the swath compressor is enabled.
- Follow this procedure if installing a drive manifold (MD #139508).

CAUTION

Check to be sure all bystanders have cleared the area.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

Figure 4.31: CDM Programming Buttons

4. Press SELECT (B) until DWA INSTALLED? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.32: DWA Controls

6. SWAP DWA CONTROLS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

   NOTE:

   This step swaps the DWA controls from the console switch to the ground speed lever (GSL) reel fore-aft buttons.

Figure 4.33: DWA Controls

7. Press right arrow (C) to select YES. Press SELECT (D).
   - DWA AUTO UP/DOWN? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

   NOTE:

   If you select YES, the DWA Auto-Up function will be activated by the GSL Reel Fore-Aft button.
8. Press right arrow (C) to select YES. Press SELECT (D).
9. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next windrower setup action.

Figure 4.34: DWA Auto Up/Down

4.3.9 Activating the Hydraulic Center-Link

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

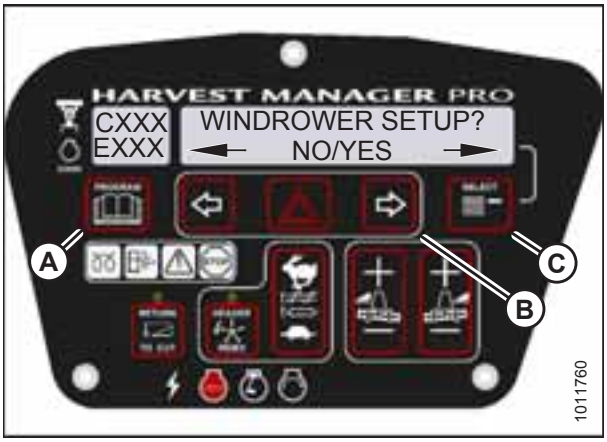


Figure 4.35: CDM Programming Buttons

4. Press SELECT (C) until TILT CYL INSTALLED? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (B) to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit programming mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

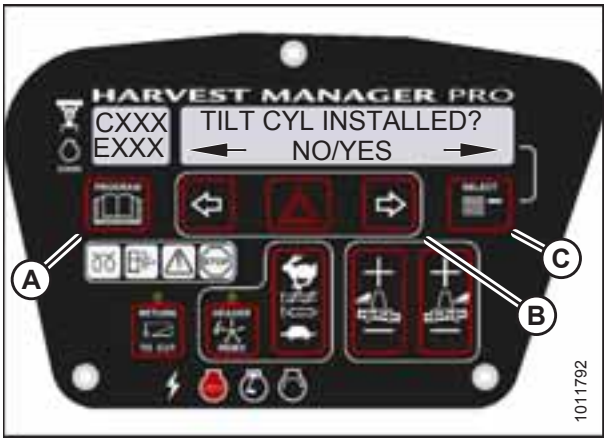


Figure 4.36: Hydraulic Center-Link

4.3.10 Activating the Rotary Disc Header Drive Hydraulics

NOTE:

This procedure requires installation of the optional Rotary Disc Header Drive Hydraulics (MD #B5510).

For more information, refer to the rotary disc header operator's manual.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

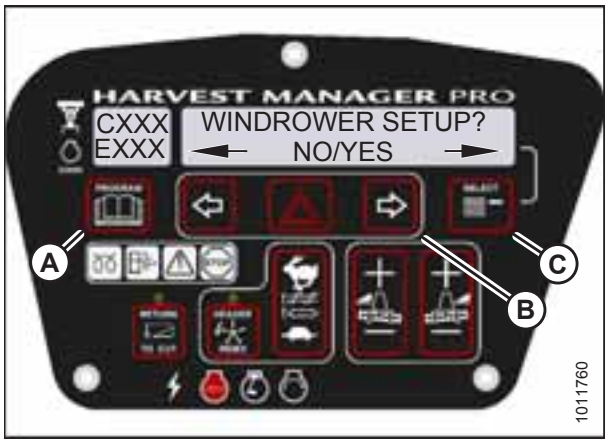


Figure 4.37: CDM Programming Buttons

4. Press SELECT (C) until DISC BLK INSTALLED? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (B) to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit programming mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

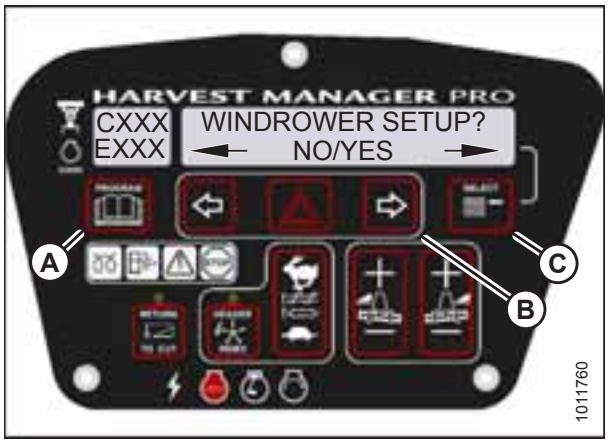


Figure 4.38: Rotary Disc Hydraulics

4.3.11 Setting the Header Cut Width

The header sends an electrical signal to the windrower to produce a header ID; however, the cut width will always default to the smallest header size available for each header type. For example, A Series Auger Headers come in 4.3, 4.9, and 5.5 m (14, 16, and 18 ft.) sizes, but the cut width will default to 4.3 m (14 ft.). Adjust setting to your specific header size.

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- Header cut width is set to less than the actual header width in order to accurately measure the number of acres cut.

1. Turn the ignition key to RUN, or start the engine.

2. Press PROGRAM (A) and SELECT (C) on CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

Figure 4.39: CDM Programming Buttons

4. Press SELECT (D) until HDR CUT WIDTH? #### is displayed on the upper line.
   - Previous cutting width is displayed on the lower line.
5. Press left (B) or right (C) arrows to change the header cut width. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

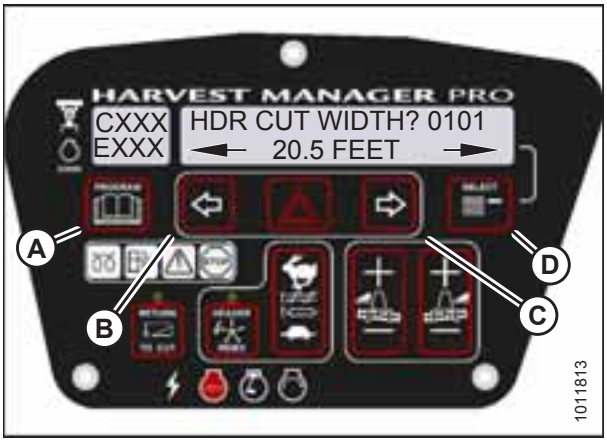


Figure 4.40: Header Cut Width

4.3.12 Activating the Swath Compressor

An optional swath compressor (MD #C2061) is available. Before using the swath compressor, you must activate it on the cab display module (CDM).

NOTE:

- CDM5 (version 512 or later) and WCM2 (version 237 or later), or WCM3 (version 116 or later), are required to operate the swath compressor.
- The Double Windrow Attachment (DWA) system must be disabled in the CDM when setting up the swath compressor.
- Users can activate and set up the swath compressor via in-cab controls without a header attached to the windrower.

Use the following procedure when installing and setting up the swath compressor:

CAUTION

Check to be sure all bystanders have cleared the area.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

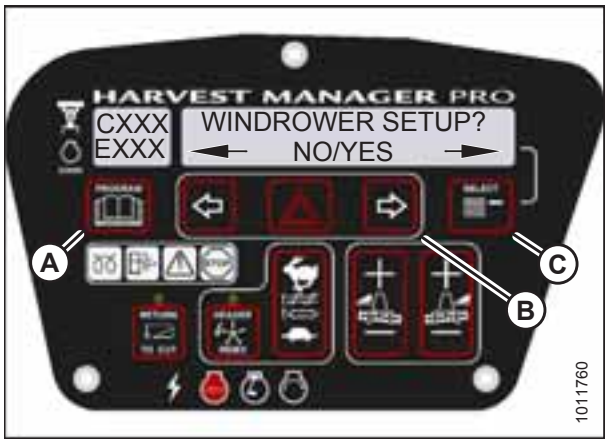


Figure 4.41: CDM Programming Buttons

4. Press SELECT (B) until SWATH COMPR INSTALL? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).
6. Press SELECT (B) until CALIBRATE SENSORS is displayed on upper line. NO/YES is displayed on lower line.
7. Press right arrow (A) to select YES. Press SELECT (B).
   - TO CALIBRATE SELECT is displayed on upper line.
   - HEADER HEIGHT is displayed on lower line.
8. Press right arrow (A) to scroll through choices until SWATH COMPR HT is displayed. Press SELECT (B).
   - SWATH SENSOR CAL is displayed on upper line.
   - SWATH UP TO START is displayed on lower line.

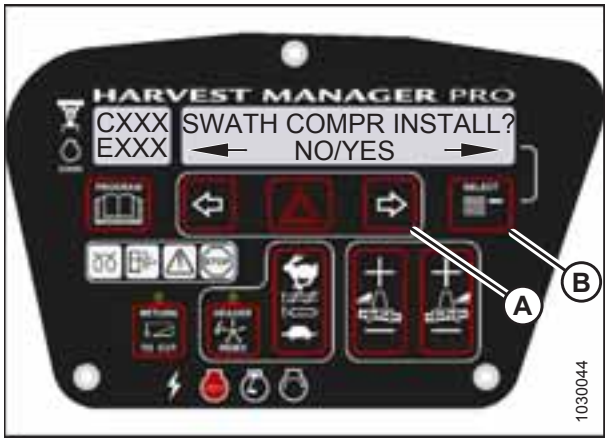


Figure 4.42: Swath Compressor Controls

9. Press switch (B) on console to raise swath compressor.
    - CALIBRATING SWATH is displayed on upper line.
    - FORM UP and flashing HOLD is displayed on lower line until system has completed reading signal with swath compressor fully raised.
    - SWATH FORM UP and DONE (with buzzer) is displayed on lower line when complete.
    - SWATH SENSOR CAL is displayed on upper line.
    - PRESS SWATH DOWN is displayed on lower line.
10. Press switch (A) on console to lower swath compressor.
    - CALIBRATING SWATH is displayed on upper line.
    - FORM DOWN and HOLD is displayed on lower line.
    - SWATH FORM COMPLETE flashes for 2 seconds on lower line (with buzzer) when calibration is finished.
11. Press PROGRAM (A) to exit programming mode or press SELECT (B) to proceed to next windrower setup action.

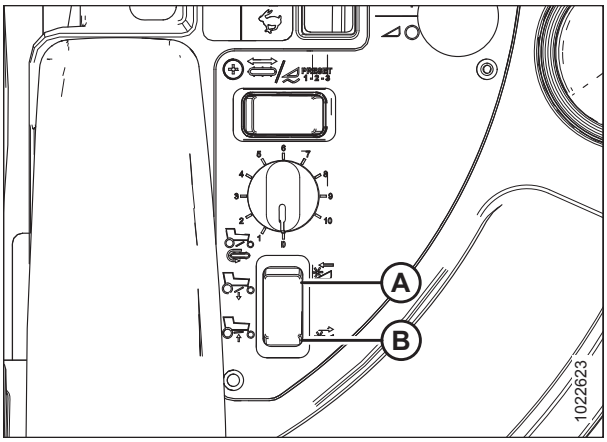


Figure 4.43: Swath Compressor Switch

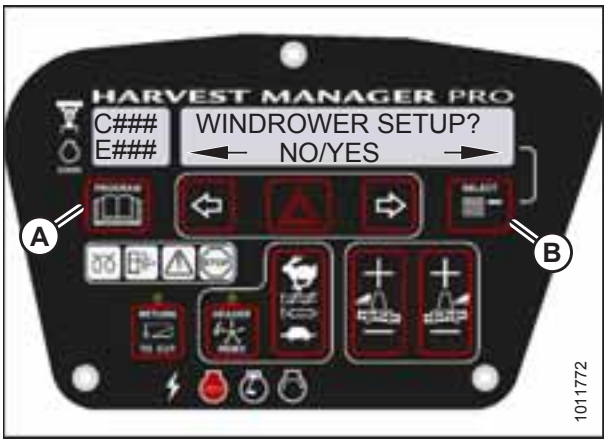


Figure 4.44: CDM Programming Buttons

4.3.13 Activating the Hay Conditioner

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

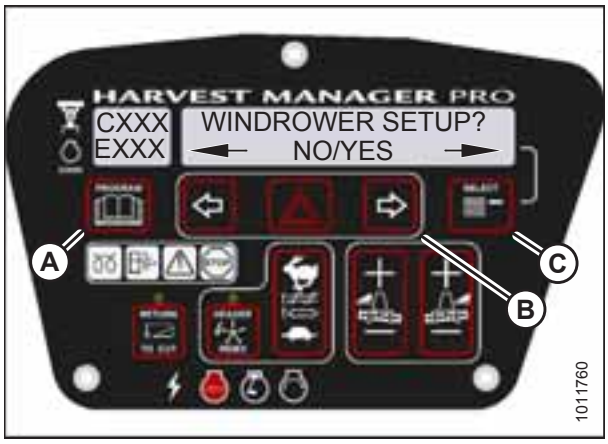


Figure 4.45: CDM Programming Buttons

4. Press SELECT (C) until HAY CONDITIONER? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (B) to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit programming mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

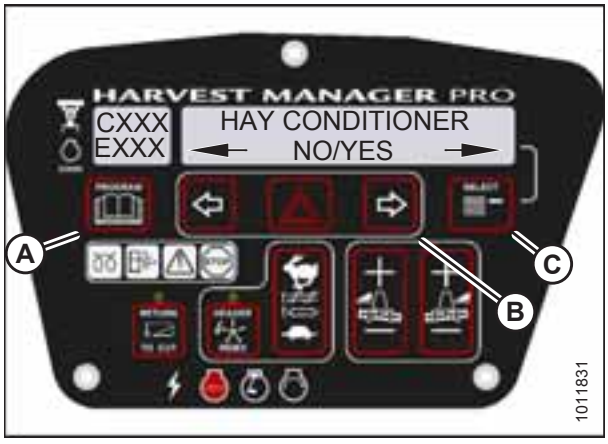


Figure 4.46: Hay Conditioner

4.3.14 Displaying Reel Speed

NOTE:

- This procedure is for draper and auger headers. It does not apply to rotary disc headers.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

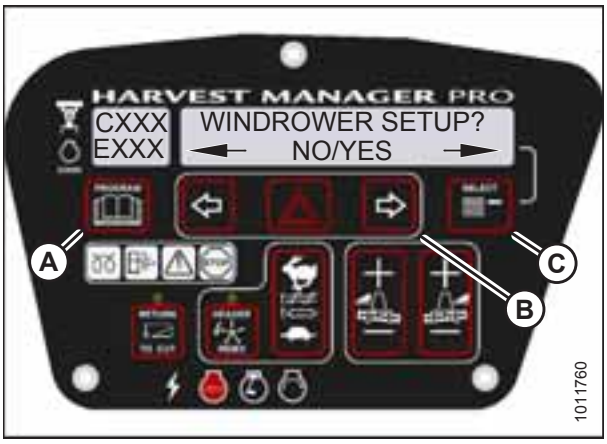


Figure 4.47: CDM Programming Buttons

4. Press SELECT (D) until HEADER REEL SPEED? is displayed on the upper line.
   - RPM/MPH or RPM/KPH is displayed on the lower line.
5. Press left (B) or right (C) arrow to select either IMPERIAL or METRIC units. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

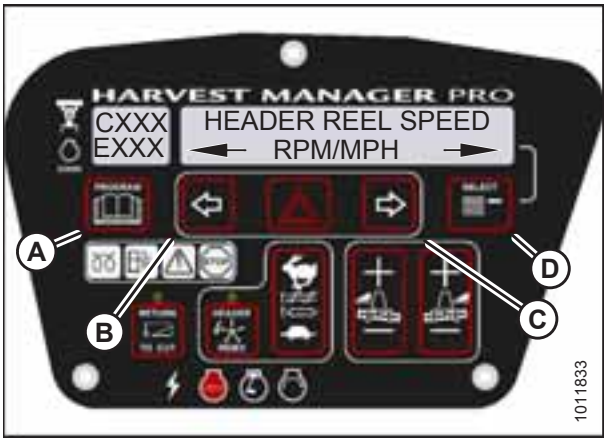


Figure 4.48: Reel Speed Display

4.3.15 Setting the Windrower's Tire Size

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

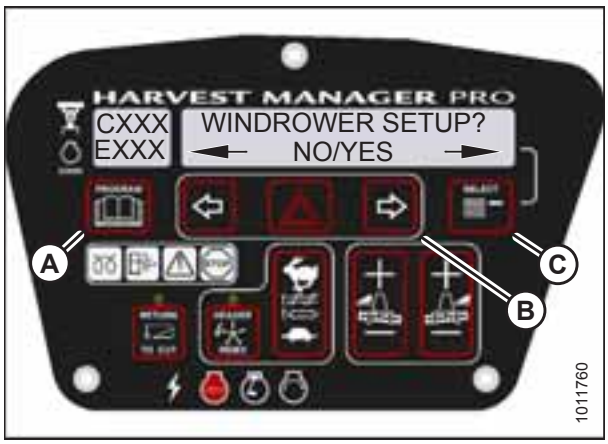


Figure 4.49: CDM Programming Buttons

4. Press SELECT (D) until SET TIRE SIZE? is displayed on the upper line.
   - Currently installed tire size is displayed on the lower line.

   NOTE:

   The following tire sizes are available:

   - 18.4 x 26 TURF
   - 18.4 x 26 BAR
   - 23.1 x 26 TURF
   - 600 – 65 R28
5. Press left (B) or right (C) arrow and select tire size. Press SELECT (D).
6. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

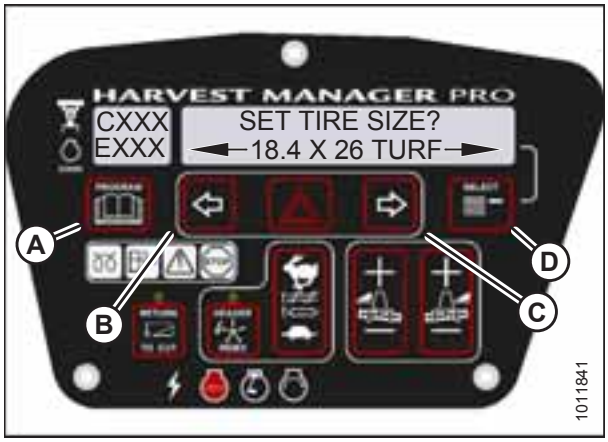


Figure 4.50: Tire Size

4.3.16 Setting the Engine Intermediate Speed Control (ISC) RPM

The Engine Intermediate Speed Control (ISC) feature provides three selectable engine speeds (1900, 2050, or 2200 rpm) for reduced load conditions. The default setting is 2200 rpm or the last selected rpm.

NOTE:

The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

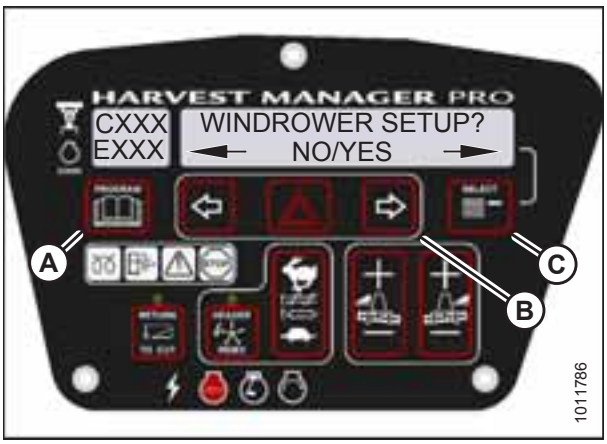


Figure 4.51: CDM Programming Buttons

4. Press SELECT (B) until SET ENGINE ISC RPM? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).
   - PRESS HAZARD TO SET is displayed on the upper line.
   - ISC RPM #### is displayed on the lower line.

Figure 4.52: Engine ISC RPM

Table 4.1 ISC Settings

ISC and rpm		
Off[8]	1	2
High Idle	2050	1900

NOTE:

The previously selected ISC rpm will be flashing.

8. Off is always used when the header is not engaged.

6. Press right arrow (C) to cycle between rpm options. Press HAZARD (B) to set.
7. Press SELECT (D).
   - EXIT ENGINE ISC? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right arrow (C) to select YES. Press SELECT (D).
9. Press PROGRAM (A) to exit programming mode.

Figure 4.53: ISC RPM

4.3.17 Clearing Sub-Acres

The windrower has two counters for acres: one counter tracks the total number of acres harvested during the machine's lifetime, and the other counter tracks sub-acres harvested for smaller harvesting instances (instances like harvesting a particular field, or for a particular day). The total acres can't be cleared from the windrower's tracking, but the sub-acres can be cleared between smaller harvesting instances.

1. With the key in the ON position, and the operator's station in cab-forward mode, press SELECT until the cab display module (CDM) displays sub-acres on the bottom line.
2. Press and hold the PROGRAM (A) button on the CDM until the sub-acres are cleared.

Figure 4.54: Cab Display Module (CDM)

4.4 Activating Cab Display Lockouts

You can lock some header functions to prevent changes to settings. Use this feature to keep header settings constant when there are multiple Operators.

NOTE:

FUNCTION LOCKED flashes on CDM when locked header function switch is pressed.

4.4.1 Activating the Header Tilt Control Lockout

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

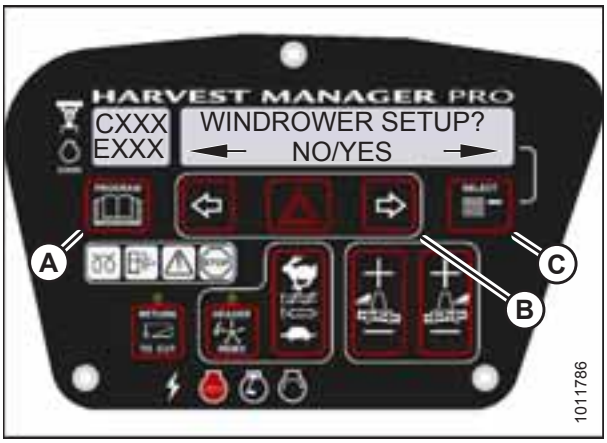


Figure 4.55: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.56: Control Locks

6. Press SELECT (D) until HEADER TILT is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable the HEADER TILT control switch.

   Press right arrow (C) to lock the HEADER TILT control switch.
8. Press PROGRAM (A) to exit programming mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

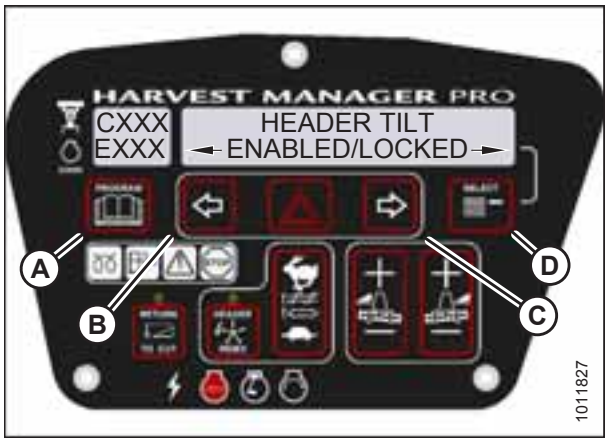


Figure 4.57: Header Tilt Control Lock

4.4.2 Activating the Header Float Control Lockout

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

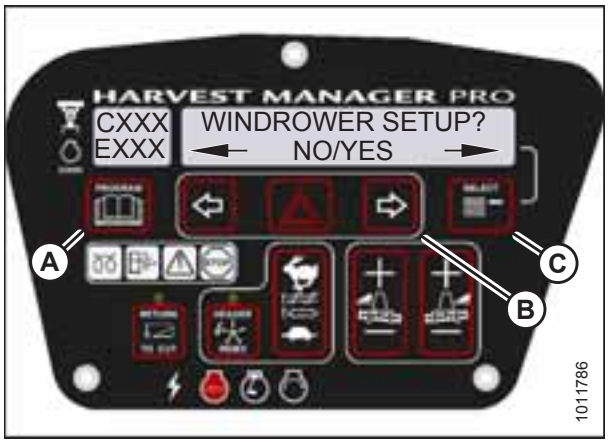


Figure 4.58: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.59: Control Locks

6. Press SELECT (D) until HEADER FLOAT is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable HEADER FLOAT control switch, or press right arrow (C) to lock HEADER FLOAT control switch.
8. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

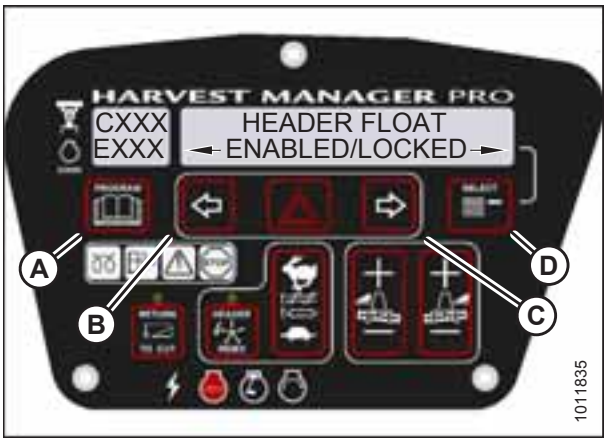


Figure 4.60: Header Float Control Lock

4.4.3 Activating the Reel Fore-Aft Control Lockout

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

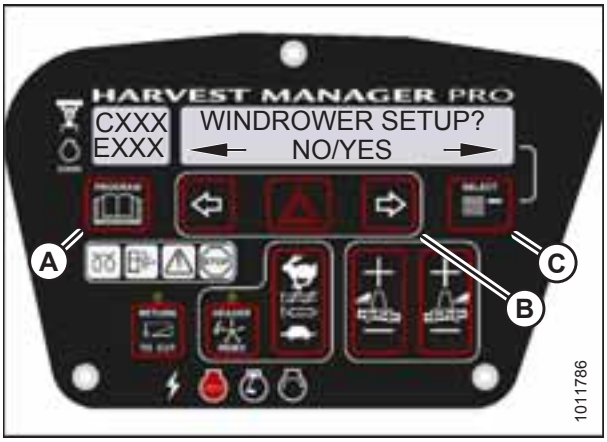


Figure 4.61: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.62: Control Locks

6. Press SELECT (D) until REEL FORE/AFT is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable REEL FORE/AFT control switch.

   Press right arrow (C) to lock REEL FORE/AFT control switch.
8. Press PROGRAM (A) to exit programming mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

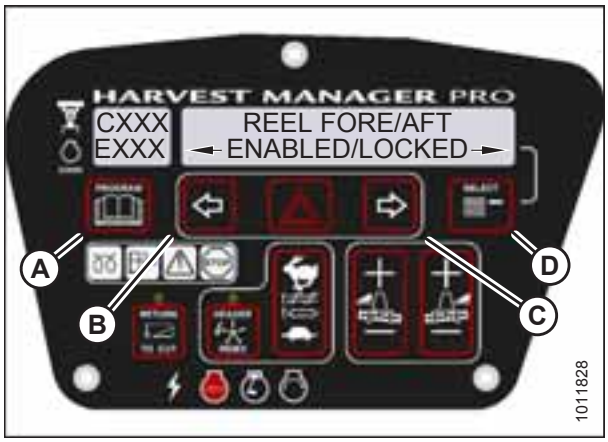


Figure 4.63: Reel Fore-Aft Control Lock

4.4.4 Activating the Draper Speed Control Lockout

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

Figure 4.64: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

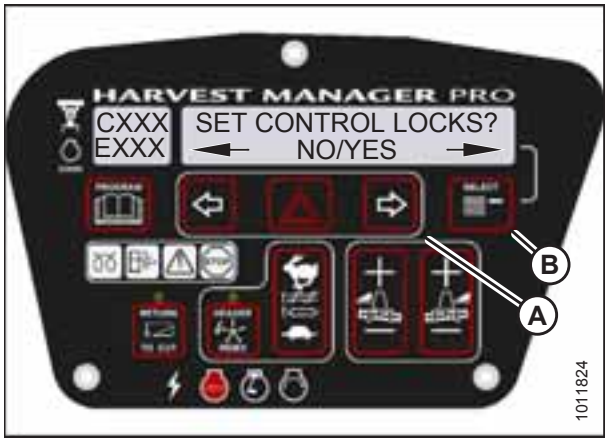


Figure 4.65: Control Locks

6. Press SELECT (D) until DRAPER SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable DRAPER SPEED control switch, or press right arrow (C) to lock DRAPER SPEED control switch.
8. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

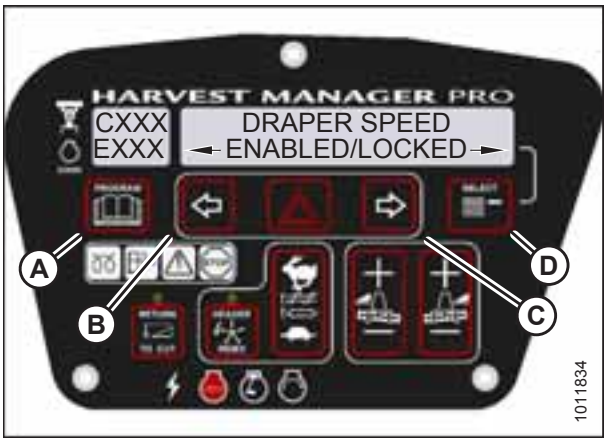


Figure 4.66: Draper Control Lock

4.4.5 Activating the Auger Speed Control Lockout

NOTE:

- This procedure is for A40D Auger Headers only.
- An auger header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

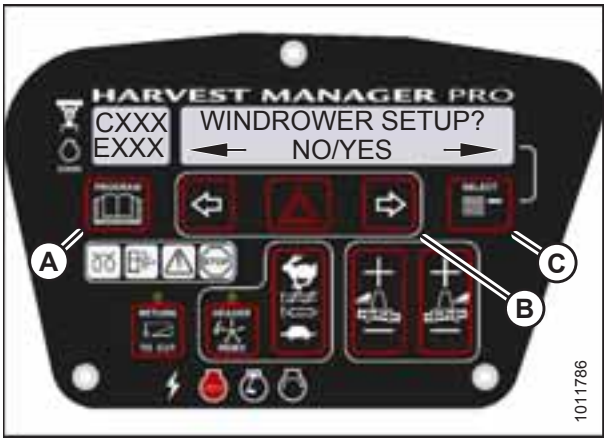


Figure 4.67: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.68: Control Locks

6. Press SELECT (D) until AUGER SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable AUGER SPEED control switch.

   Press right arrow (C) to lock AUGER SPEED control switch.
8. Press PROGRAM (A) to exit programming mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

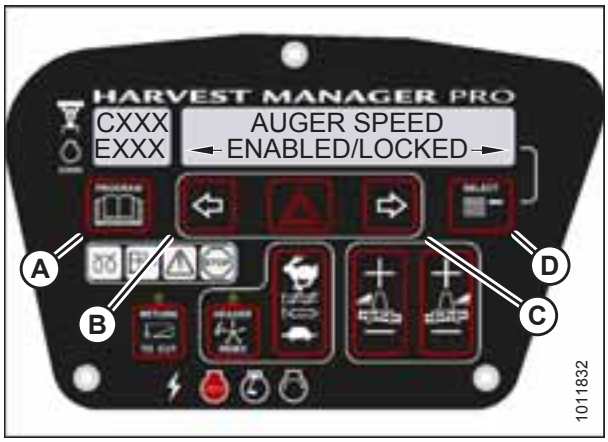


Figure 4.69: Auger Control Lock

4.4.6 Activating Knife Speed Control Lockout

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

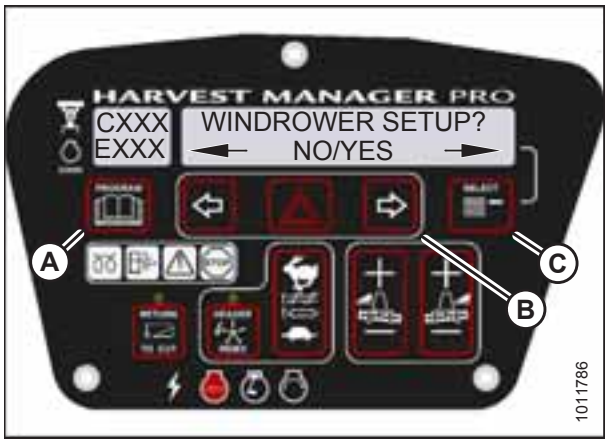


Figure 4.70: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.71: Control Locks

6. Press SELECT (D) until KNIFE SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable KNIFE SPEED control switch, or press right arrow (C) to lock KNIFE SPEED control switch.
8. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

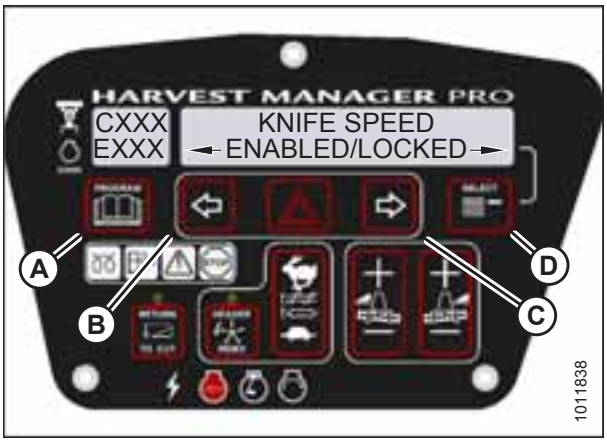


Figure 4.72: Knife Speed Control Lock

4.4.7 Activating Rotary Disc Speed Control Lockout

NOTE:

- This procedure is for rotary disc headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

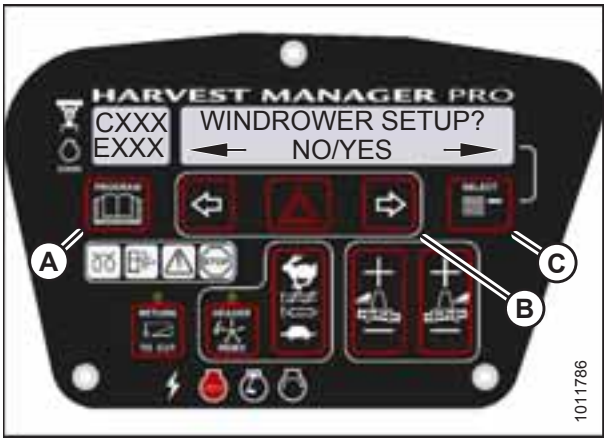


Figure 4.73: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.74: Control Locks

6. Press SELECT (D) until DISK SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable DISK SPEED control switch, or press right arrow (C) to lock DISK SPEED control switch.
8. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

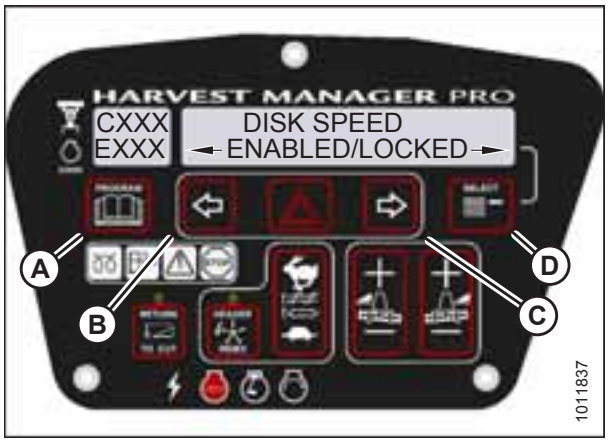


Figure 4.75: Disc Speed Control Lock

4.4.8 Activating the Reel Speed Control Lockout

NOTE:

This procedure is for draper headers only.

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

Figure 4.76: CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.77: Control Locks

6. Press SELECT (D) until REEL SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable the REEL SPEED control switch.

   Press right arrow (C) to lock the REEL SPEED control switch.
8. Press PROGRAM (A) to exit programming mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

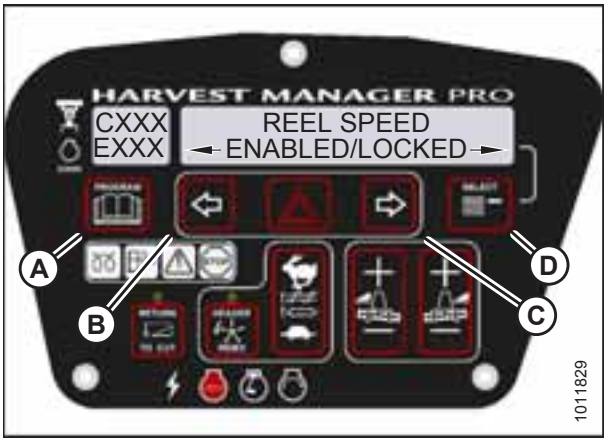


Figure 4.78: Reel Speed Control Lock

4.5 Displaying Activated Cab Display Lockouts

Displaying the activated control locks allows you to quickly determine which controls are locked on the cab display module (CDM).

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

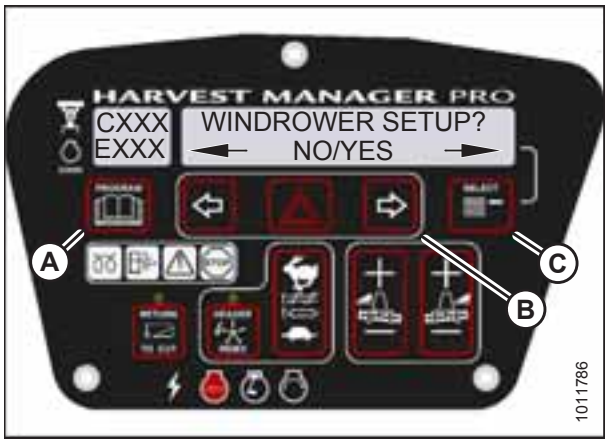


Figure 4.79: CDM Programming Buttons

4. Press SELECT (B) until VIEW CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right arrow (A) to select YES. Press SELECT (B).

   HEADER TILT is displayed on the upper line.
   - The control switch status is displayed on the lower line. The hours displayed indicate when a switch was enabled or locked.

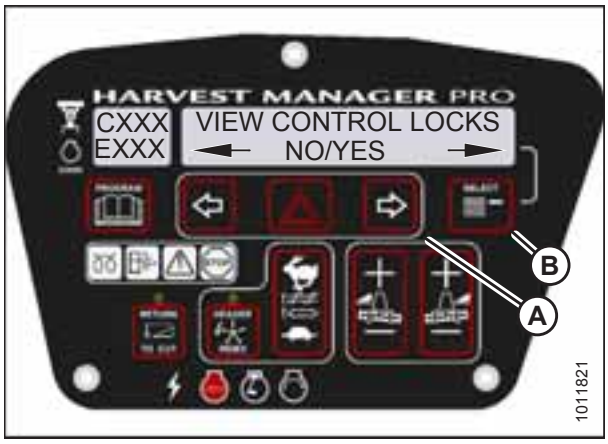


Figure 4.80: Control Locks

6. Press left arrow (B) or right arrow (C) to cycle between control switch lockouts. The displayed control switches are as follows:
   - HEADER TILT
   - HEADER FLOAT
   - REEL FORE/AFT
   - DRAPER SPEED
   - AUGER SPEED
   - KNIFE SPEED
   - DISK SPEED
   - REEL SPEED

   NOTE:

   Not all control locks apply to every header.

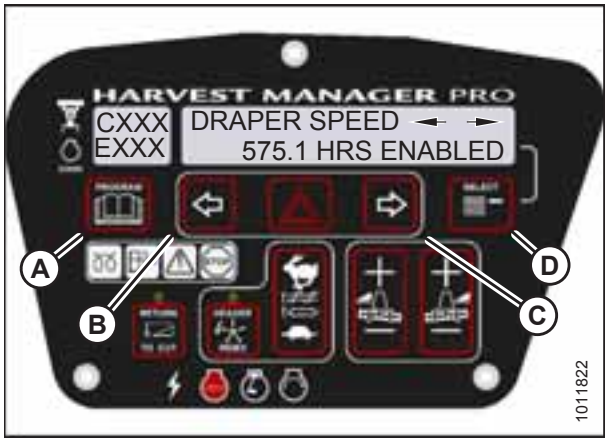


Figure 4.81: Control Locks

7. Press SELECT (D).
   - EXIT VIEW LOCKOUTS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (C) to select YES.
9. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

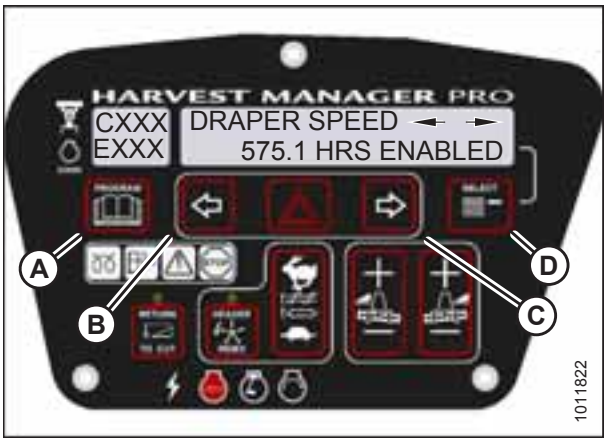


Figure 4.82: Control Locks

4.6 Calibrating the Header Sensors

Sensor calibration programs the windrower control module (WCM) with settings for the attached header.

4.6.1 Calibrating the Header Height Sensor

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its configuration for each header type.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (B) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

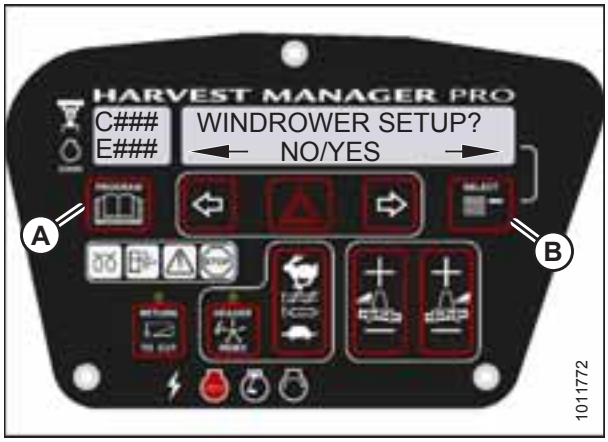


Figure 4.83: CDM Programming Buttons

4. Press right arrow (B) to select YES. Press SELECT (C).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press left (A) or right (B) arrow until HEADER HEIGHT is displayed on the lower line. Press SELECT (C).
   - CALIBRATING HEIGHT is displayed on the upper line.
   - RAISE HEADER HOLD is displayed on the lower line.

Figure 4.84: Header Height Calibration

CAUTION

Check to be sure all bystanders have cleared the area.

6. Press and hold the HEADER UP button (A) on the ground speed lever (GSL).
   - CALIBRATING HEIGHT is displayed on the upper line.
   - RAISE HEADER HOLD is displayed on the lower line.

   NOTE:

   The word HOLD will flash during calibration. RAISE HEADER DONE will display on the lower line once calibration is complete.
7. Release the HEADER UP button (A).
   - HEIGHT SENSOR CAL is displayed on the upper line.
   - PRESS LOWER HEADER is displayed on the lower line.

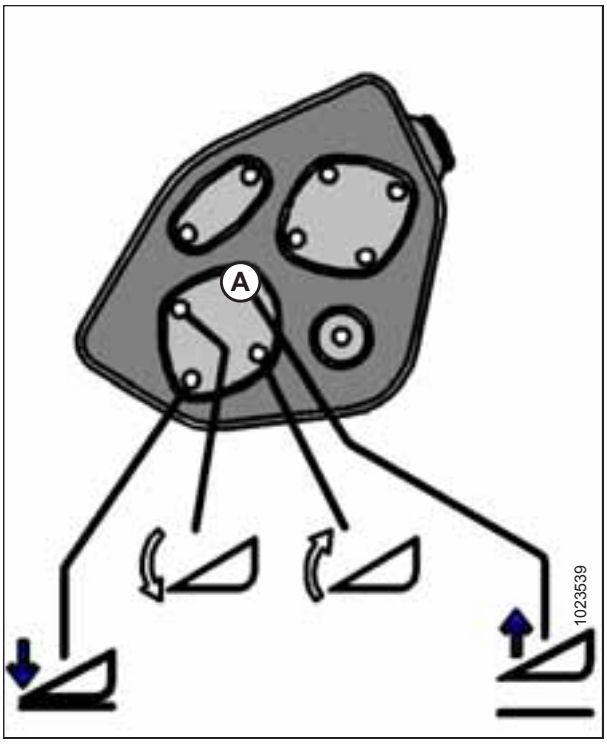


Figure 4.85: Header Height Controls on GSL

8. Press and hold HEADER DOWN button (A) on the GSL.

   NOTE:

   The word HOLD will flash during calibration. HT SENSOR COMPLETE will display on the lower line once calibration is complete.
9. Release HEADER DOWN button (A).
   - TO CALIBRATE SELECT is displayed on the upper line.
   - HEADER HEIGHT is displayed on the lower line.

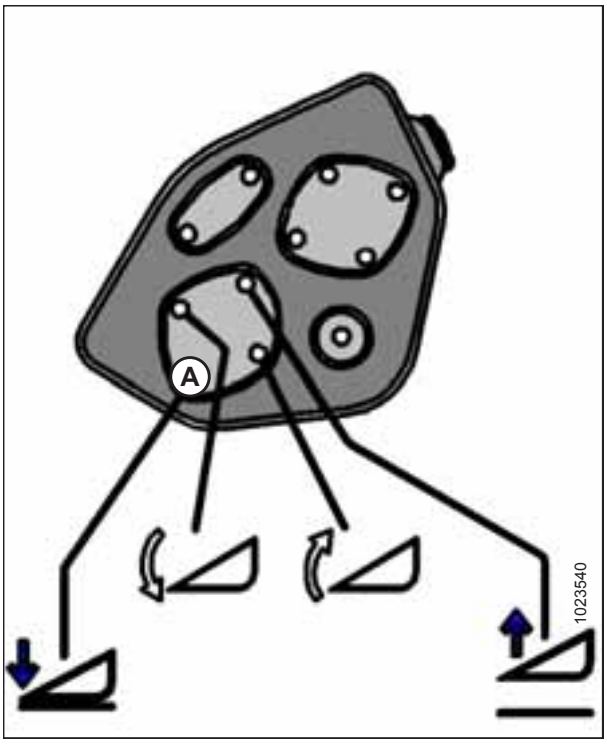


Figure 4.86: Header Height Controls on GSL

10. Press right arrow to select next header sensor calibration or STOP & EXIT. Press SELECT.
11. Press PROGRAM to exit programming mode.

4.6.2 Calibrating the Header Tilt Sensor

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (B) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

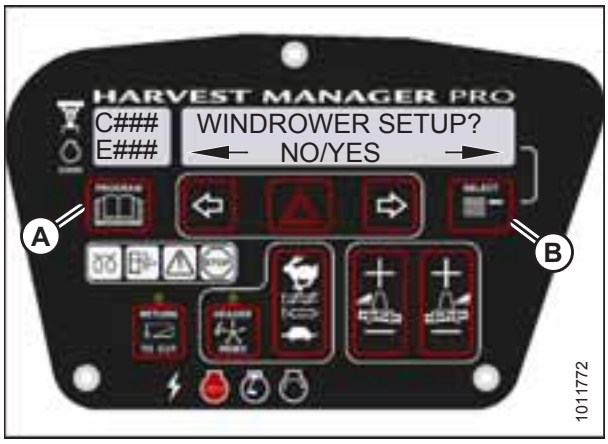


Figure 4.87: CDM Programming Buttons

4. Press right arrow (B) to select YES. Press SELECT (C).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press left (A) or right (B) arrow until HEADER TILT is displayed on the lower line. Press SELECT (C).
   - HDR TILT SENSOR CAL is displayed on the upper line.
   - EXTEND TILT TO START is displayed on the lower line.

Figure 4.88: Header Tilt Calibration

CAUTION

Check to be sure all bystanders have cleared the area.

6. Press and hold the HEADER TILT EXTEND button (A) on the ground speed lever (GSL).
   - CALIBRATING TILT is displayed on the upper line.
   - EXTEND TILT HOLD is displayed on the lower line.

   NOTE:

   The word HOLD will flash during calibration. HEADER TILT DONE will display on the lower line once calibration is complete.
7. Release the HEADER TILT EXTEND button (A).
   - HEADER TILT SENSOR CAL is displayed on upper line.
   - PRESS RETRACT TILT is displayed on the lower line.

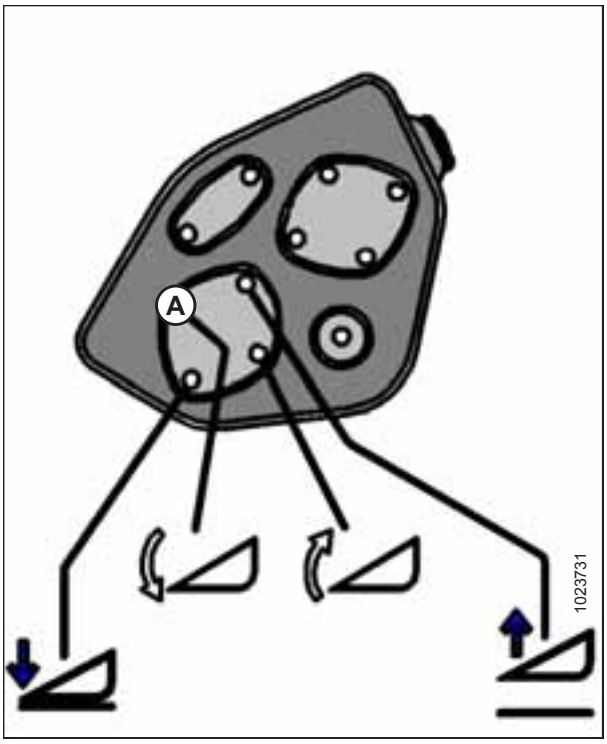


Figure 4.89: Header Tilt Controls on GSL

8. Press and hold HEADER TILT RETRACT button (A) on GSL.
   - CALIBRATING TILT is displayed on the upper line.
   - RETRACT TILT HOLD is displayed on the lower line.

   NOTE:

   The word HOLD will flash during calibration. HEADER TILT COMPLETE will display on the lower line once calibration is complete.
9. Release HEADER TILT RETRACT button (A).
   - TO CALIBRATE SELECT is displayed on the upper line.
   - HEADER TILT is displayed on the lower line.

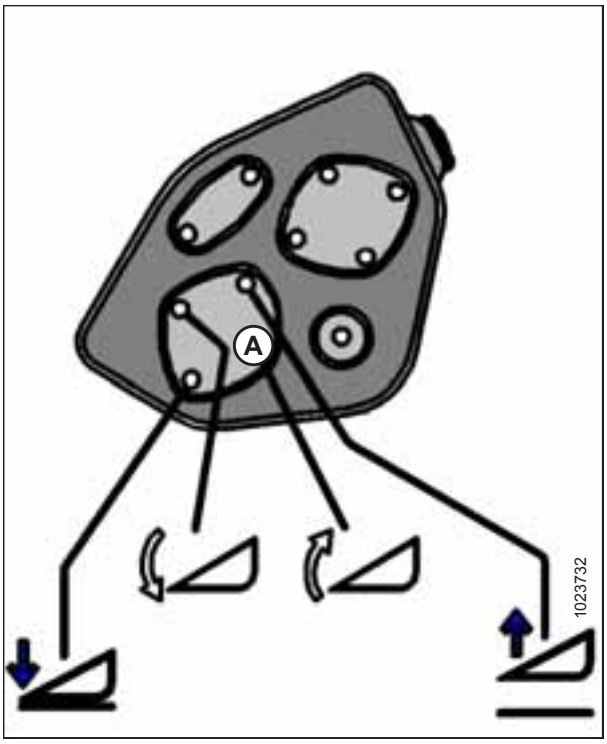


Figure 4.90: Header Tilt Controls on GSL

10. Press right arrow to select next header sensor calibration or STOP & EXIT. Press SELECT.
11. Press PROGRAM to exit programming mode.

4.6.3 Calibrating the Header Float Sensors

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- Use the left or right FLOAT buttons on the CDM to perform this procedure.

IMPORTANT:

Ensure float pins (A) are installed in the working position.

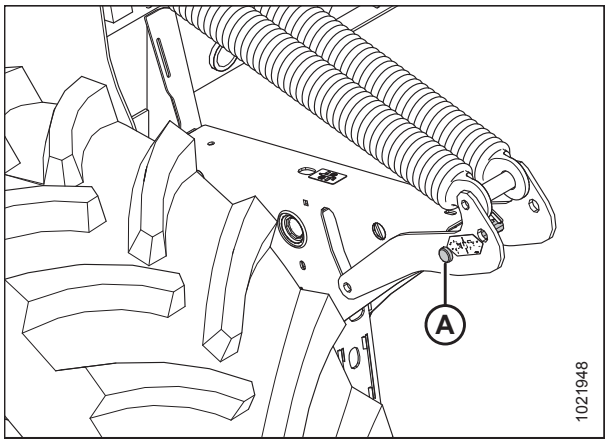


Figure 4.91: Float Pin – Right Side

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (B) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

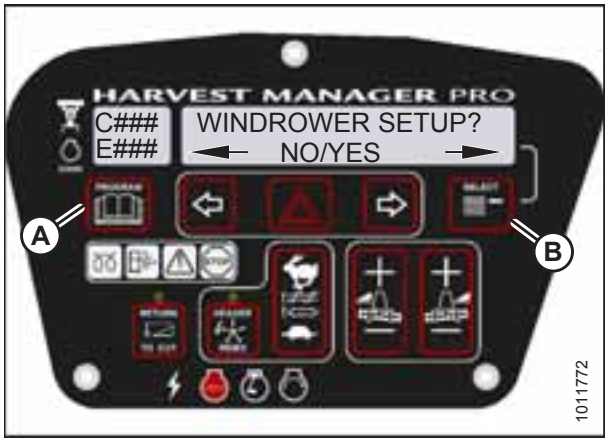


Figure 4.92: CDM Programming Buttons

4. Press right arrow (B) to select YES. Press SELECT (C).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press left arrow (A) or right arrow (B) until HEADER FLOAT is displayed on the lower line. Press SELECT (C).
   - CALIBRATING FLOAT is displayed on the upper line.
   - PRESS FLOAT + TO START is displayed on the lower line.

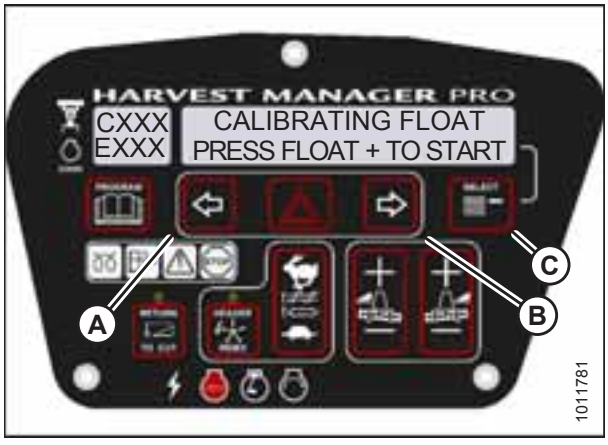


Figure 4.93: Header Float Display

CAUTION

Check to be sure all bystanders have cleared the area.

6. Press and hold FLOAT + button (A) on the CDM.
   - CALIBRATING FLOAT is displayed on the upper line.
   - FLOAT (+) HOLD is displayed on the lower line.

   NOTE:

   The word HOLD will flash during calibration. FLOAT (+) DONE will display on the lower line once calibration is complete.
7. Release the FLOAT + button (A).
   - CALIBRATING FLOAT is displayed on the upper line.
   - FLOAT (–) HOLD is displayed on the lower line.

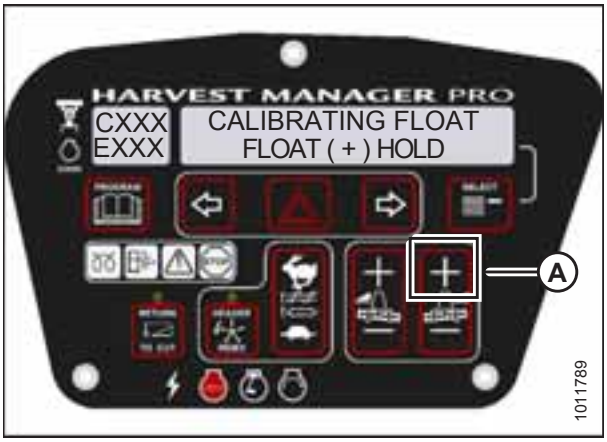


Figure 4.94: Positive Header Float Display

8. Press and hold FLOAT – button (A) on CDM.
   - CALIBRATING FLOAT is displayed on the upper line.
   - FLOAT (–) HOLD is displayed on the lower line.

   NOTE:

   The word HOLD will flash during calibration. HDR FLOAT COMPLETE will display on the lower line once calibration is complete.
9. Release FLOAT – button (A).
   - TO CALIBRATE SELECT is displayed on the upper line.
   - HEADER FLOAT is displayed on the lower line.

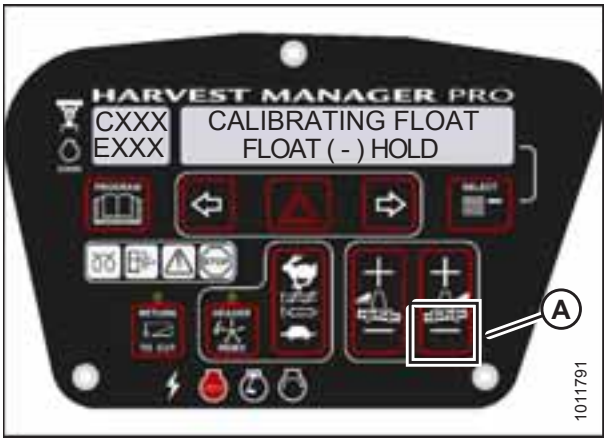


Figure 4.95: Negative Header Float Display

10. Press right arrow to select next header sensor calibration or STOP & EXIT. Press SELECT.
11. Press PROGRAM to exit programming mode.

4.7 Calibrating the Swath Compressor Sensor

This topic only applies to machines equipped with a swath compressor. To calibrate the swath compressor sensor, follow these steps:

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (B) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

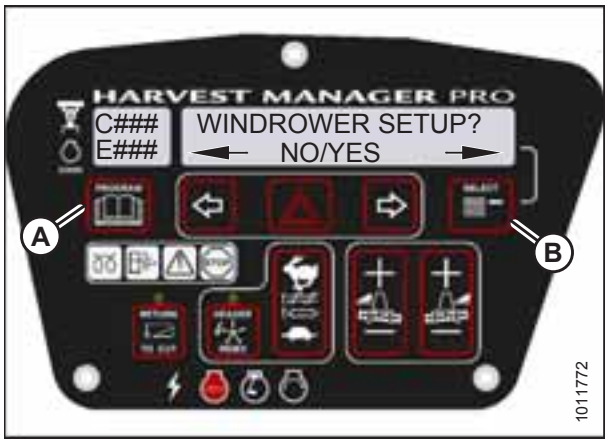


Figure 4.96: CDM Programming Buttons

4. Press right arrow (A) to select YES. Press SELECT (B).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press right arrow (A) to scroll through the choices until SWATH COMPR HT is displayed on the lower line. Press SELECT (B).
   - SWATH SENSOR CAL is displayed on the upper line.
   - SWATH UP TO START is displayed on the lower line.

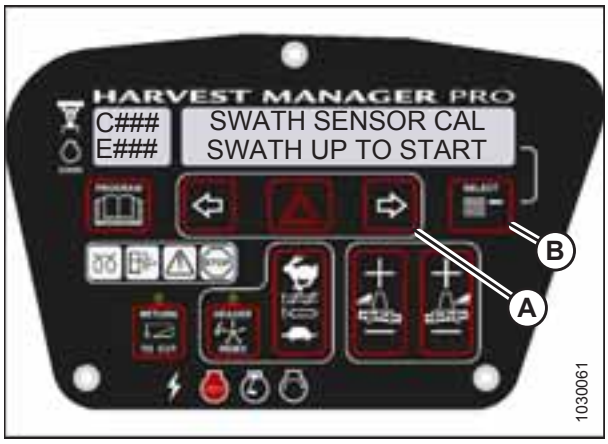


Figure 4.97: Swath Compressor Sensor Calibration

6. Press and hold button (B) to raise the swath compressor.
   - CALIBRATING SWATH is displayed on the upper line.
   - FORM UP and flashing HOLD is displayed on the lower line until the system has completed reading signal with swath compressor fully raised.
   - SWATH FORM UP DONE (with buzzer) is displayed on the lower line when complete.

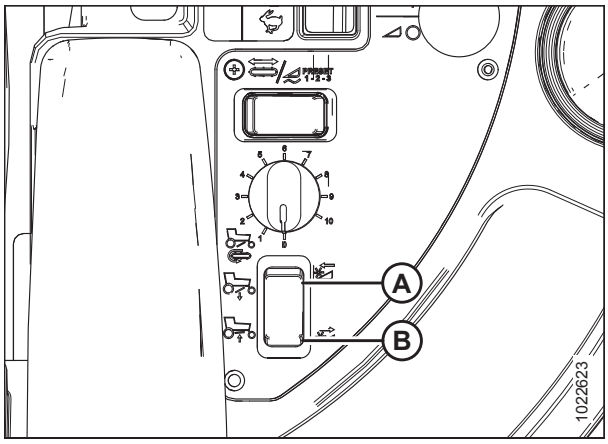


Figure 4.98: Swath Compressor Controls

A - Lower Swath Compressor
B - Raise Swath Compressor

- SWATH SENSOR CAL is displayed on the upper line.
- PRESS SWATH DOWN is displayed on the lower line.

Figure 4.99: Swath Compressor Sensor Calibration

7. Press and hold button (A) to lower the swath compressor.
   - CALIBRATING SWATH is displayed on the upper line.
   - FORM DOWN and flashing HOLD is displayed on the lower line.
   - SWATH FORM COMPLETE flashes for 2 seconds on the lower line (with buzzer) when the calibration is complete.
8. Press PROGRAM to exit programming mode.

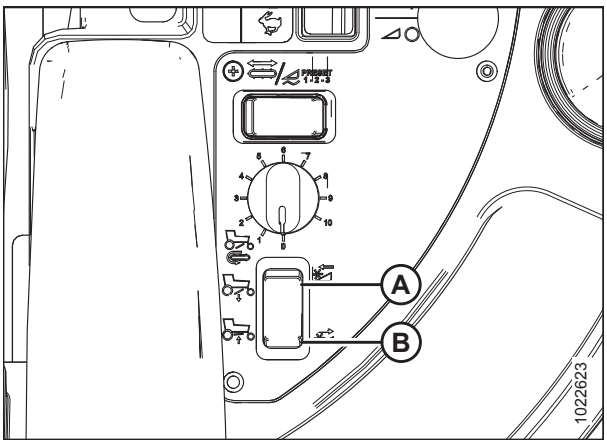


Figure 4.100: Swath Compressor Controls

A - Lower Swath Compressor
B - Raise Swath Compressor

4.8 Troubleshooting Windrower Problems

4.8.1 Displaying the Windrower and Engine Error Codes

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode. Press SELECT (B).
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.

Figure 4.101: CDM Programming Buttons

4. Press right arrow (A) to select YES. Press SELECT (B).
5. VIEW ERROR CODES? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - VIEW WINDRWR CODES? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

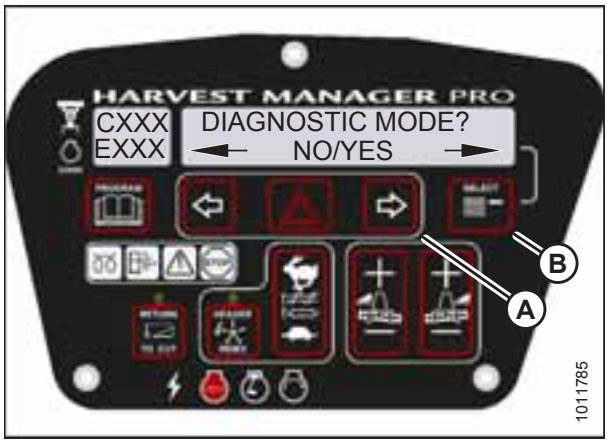


Figure 4.102: Diagnostic Functions

7. Press right arrow (A) to select YES. Press SELECT (C).
   - The most recent error code will be displayed.
8. Press right (A) or left (B) arrow to cycle through the last ten recorded windrower error codes until EXIT WINDROWER CODES is displayed.
9. Press right arrow (A) to select YES. Press SELECT (C).
   - VIEW ENGINE CODES is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.103: Windrower Codes

10. Press right arrow (C) to select YES. Press SELECT (D).
11. Press left (B) or right (C) arrow to cycle through the last ten recorded engine error codes until EXIT ENGINE CODES is displayed.
12. Press right arrow (C) to select YES. Press SELECT (D).
13. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next diagnostic mode.

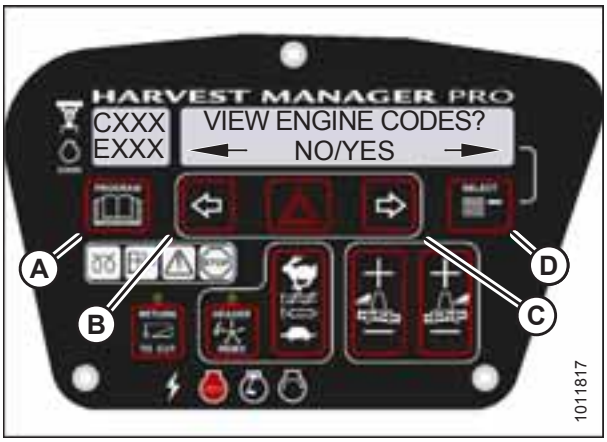


Figure 4.104: Engine Codes

4.8.2 Switching the Installed Header Sensors ON or OFF

You can selectively enable or disable header sensors in the event of a malfunction or as part of a troubleshooting routine.

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- Disabled sensors flash the word SENSOR on the CDM during regular operation.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press SELECT (C) until DIAGNOSTIC MODE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (B) to select YES. Press SELECT (C).
   - VIEW ERROR CODES? is displayed on the upper line.

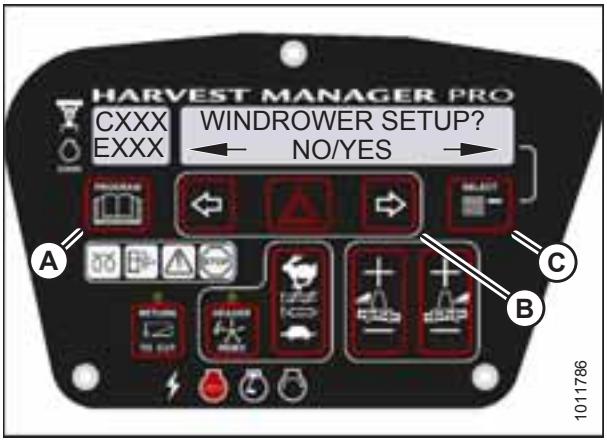


Figure 4.105: CDM Programming Buttons

5. Press SELECT (B) until ENTER SENSOR SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - KNIFE SPEED SENSOR is displayed on the lower line.
   - ENABLE/DISABLE is displayed on the lower line.

Figure 4.106: Diagnostic Functions

7. Press left arrow (B) to enable a sensor. Press right arrow (C) to disable sensor. Press SELECT (D) to confirm selection and move on to next sensor.

   The following sensors are available:
   - HEADER HT SENSOR
   - HEADER TILT SENSOR
   - KNIFE SPEED SENSOR
   - REEL SPEED SENSOR
   - HEADER FLOAT SENSOR
   - OVERLOAD PRESSURE[9]
   - HYD OIL TEMP SENSOR

   When sensors have been modified, press SELECT (D) to display the EXIT SENSOR SETUP? selection.
8. Press right arrow (C) to select YES. Press SELECT.
9. Press PROGRAM (A) to exit programming mode or press SELECT to proceed to next diagnostic mode.

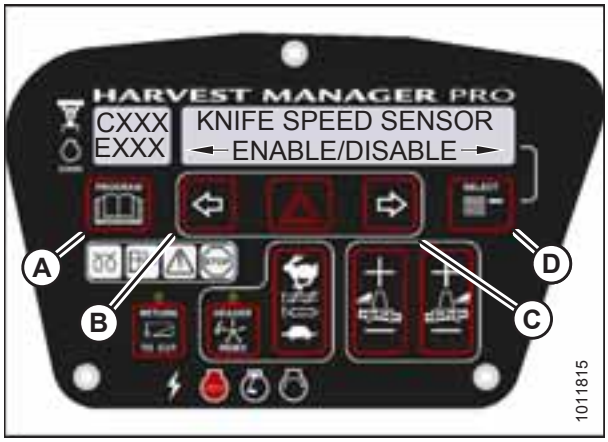


Figure 4.107: Header Sensors

9. Requires installation of optional pressure sensor (MD #B5574).

4.8.3 Displaying Header Sensor Input Signals

You can display individual sensor input signals in the event of a malfunction or as part of a troubleshooting routine.

NOTE:

The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

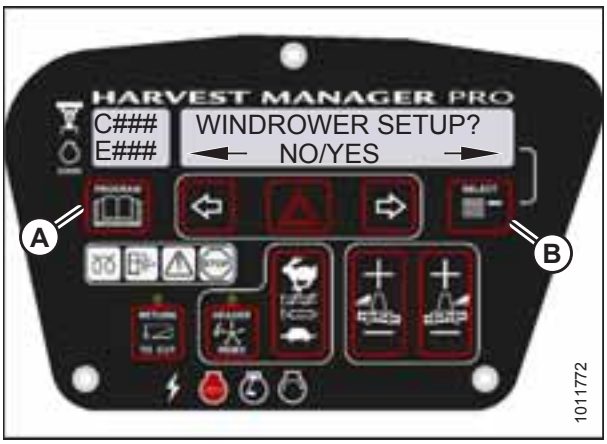


Figure 4.108: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).
   - VIEW ERROR CODES? is displayed on the upper line.
5. Press SELECT (B) until READ SENSOR SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

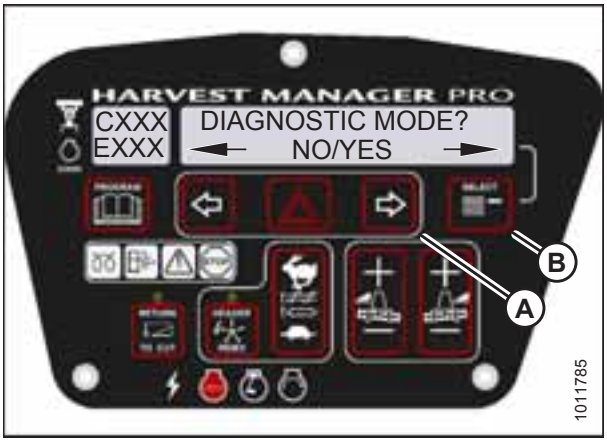


Figure 4.109: Diagnostic Functions

6. Press right arrow (C) to select YES. Press SELECT (D).
   - SENSOR INPUT is displayed on the upper line.
   - HDR HEIGHT 1.23 V is displayed on the lower line.
7. Press left (B) or right (C) arrow to cycle between individual sensor readers.
8. Press SELECT (D) to skip to EXIT READ SENSORS? selection.
9. Press right arrow (C) to select YES. Press SELECT.
10. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next diagnostic mode.

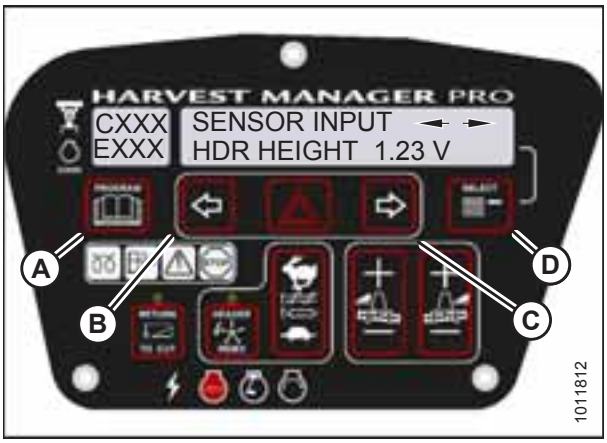


Figure 4.110: Header Sensors

4.8.4 Forcing a Header ID

The header must be attached to the windrower to troubleshoot certain issues. If damage has occurred to the header wiring or no header is available, you can force the windrower control module (WCM) to read a header ID. The WCM reverts to reading NO HEADER each time the engine ignition is cycled.

IMPORTANT:

Forcing a header ID that is different from the attached header can damage the windrower and header. Doing so can lead to vibration, belt failures, and other overspeeding related problems.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

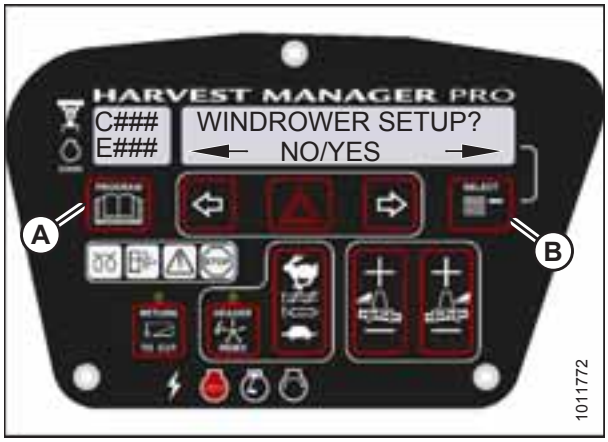


Figure 4.111: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

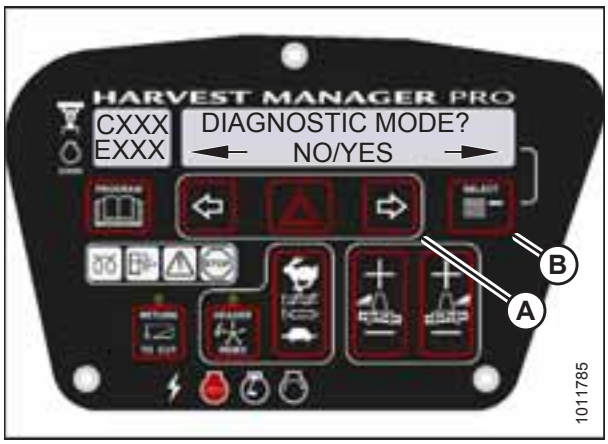


Figure 4.112: Diagnostic Functions

5. Press SELECT (B) until FORCE HEADER TYPE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - SELECT HEADER TYPE is displayed on the upper line.
   - DISK HEADER is displayed on the lower line.

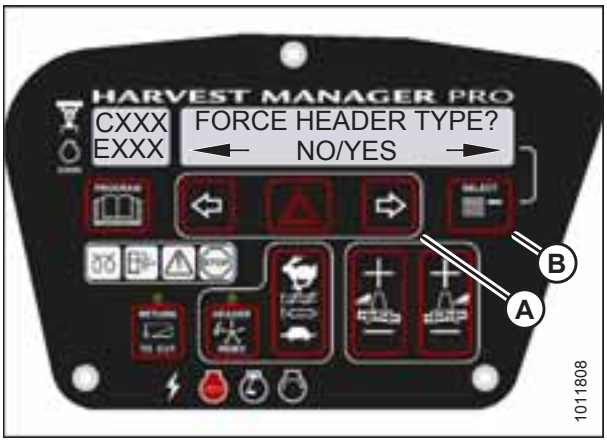


Figure 4.113: Header Type

7. Press left (A) or right (B) arrow to cycle through list of header types.
8. When desired header type is displayed, press SELECT (C).
   - EXIT FORCE HEADER? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
9. Press right arrow (B) to select YES. Press SELECT (C).

   Proceed to next diagnostic mode, or press PROGRAM to exit programming mode.

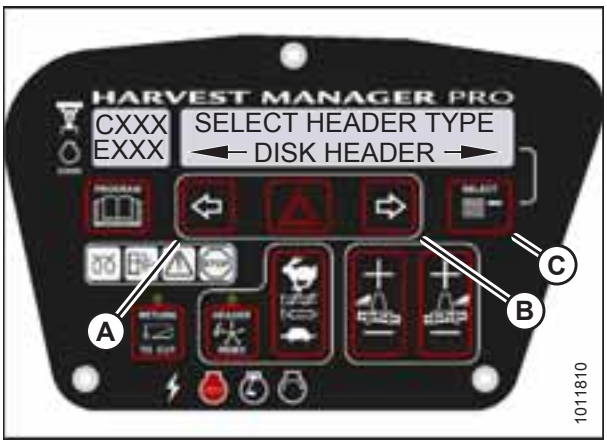


Figure 4.114: Header Type

4.9 Troubleshooting Header Problems

You can test individual parts of the header as part of a troubleshooting routine.

4.9.1 Testing the Header Up/Down Activate Function Using the Cab Display Module

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode. Press SELECT (B).
   - WINDROWER SETUP? is displayed on the upper line.

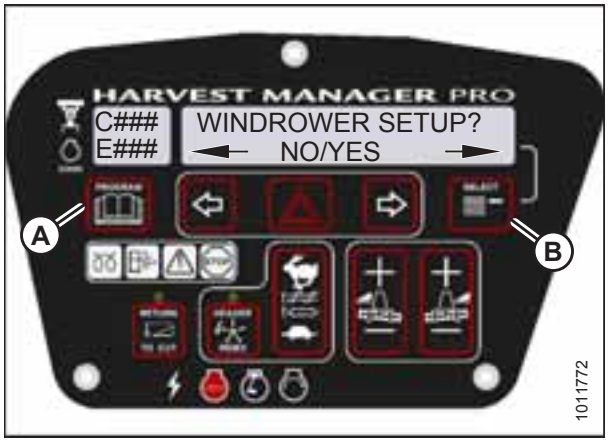


Figure 4.115: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

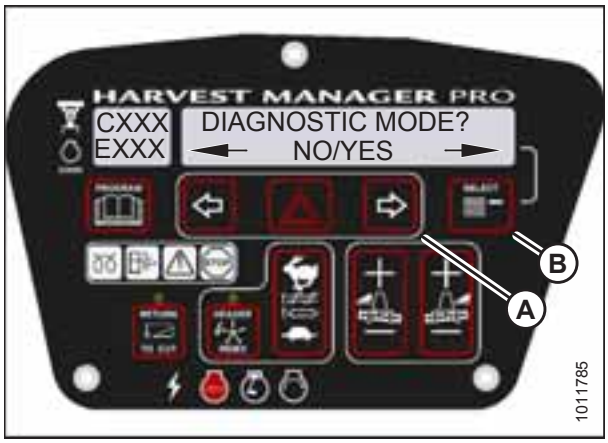


Figure 4.116: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).

CAUTION

Check to be sure all bystanders have cleared the area.

Figure 4.117: Functions

7. Press SELECT (D) until ACTIVATE HEADER HT is displayed on the upper line.
   - DOWN/UP is displayed on the lower line.
8. Press and hold left arrow (B) to lower header, or press and hold right arrow (C) to raise header. Verify header is functioning properly.
9. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

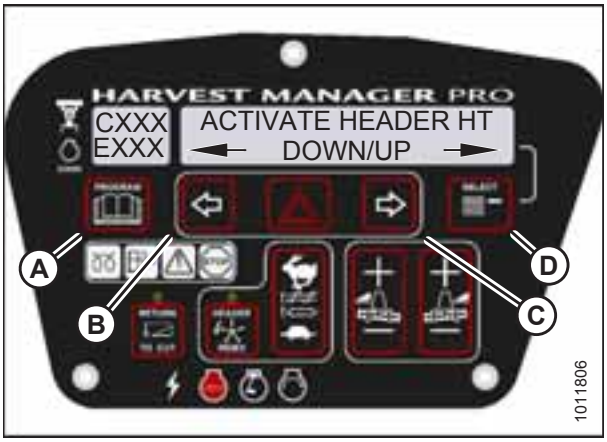


Figure 4.118: Header Height

4.9.2 Testing the Reel Up/Down Activate Function Using the Cab Display Module

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn the ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode. Press SELECT (B).
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.119: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.120: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).

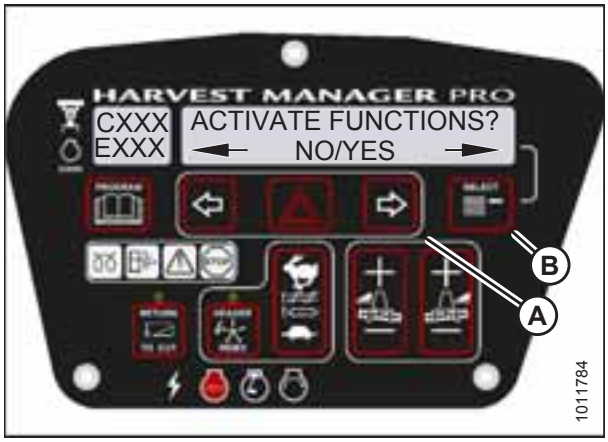


Figure 4.121: Functions

7. Press SELECT (D) until ACTIVATE REEL HT is displayed on the upper line.
   - DOWN/UP is displayed on the lower line.

CAUTION

Check to be sure all bystanders have cleared the area.

8. Press and hold left arrow (B) to lower reel. Press and hold right arrow (C) to raise reel.

   IMPORTANT:

   Verify reel is functioning properly.
9. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

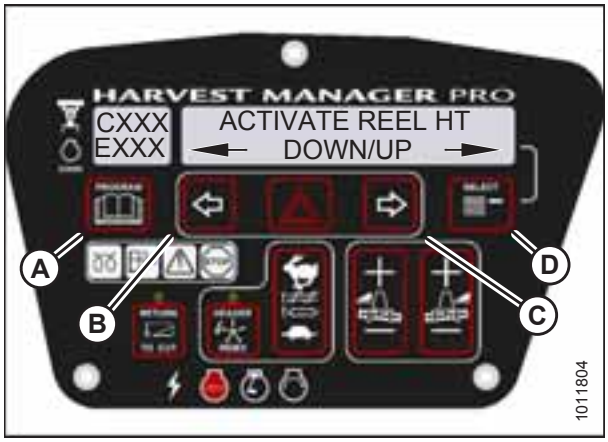


Figure 4.122: Reel Height

4.9.3 Testing the Header Tilt Activate Function Using the Cab Display Module

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the CDM to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.123: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

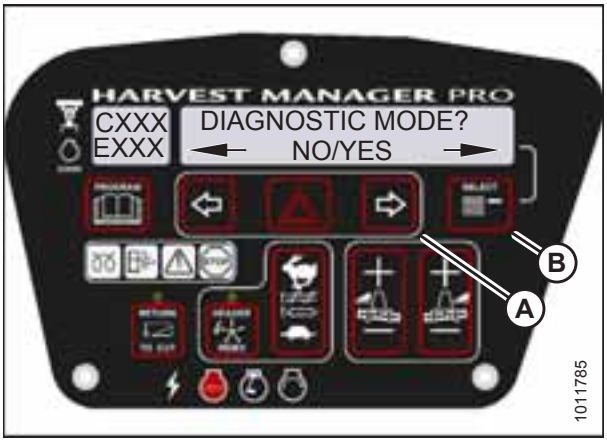


Figure 4.124: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.125: Functions

7. Press SELECT (D) until ACTIVATE HDR TILT is displayed on the upper line.
   - IN/OUT is displayed on the lower line.
8. Press and hold left arrow (B) to **decrease** header tilt. Press and hold right arrow (C) to **increase** header tilt.

   IMPORTANT:

   Verify header is functioning properly.
9. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

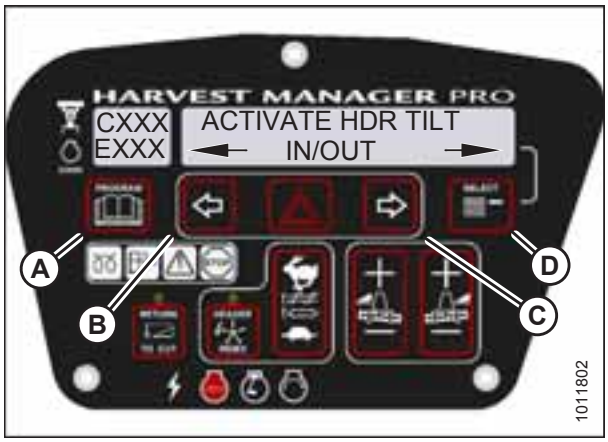


Figure 4.126: Header Tilt Angle

4.9.4 Testing the Knife Drive Circuit Using the Cab Display Module

IMPORTANT:

Do **NOT** overspeed a drive. Overspeeding can lead to vibration, belt failures, or other overspeeding related problems.

NOTE:

The header **MUST** be attached to windrower to follow this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode. Press SELECT (B).
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.127: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

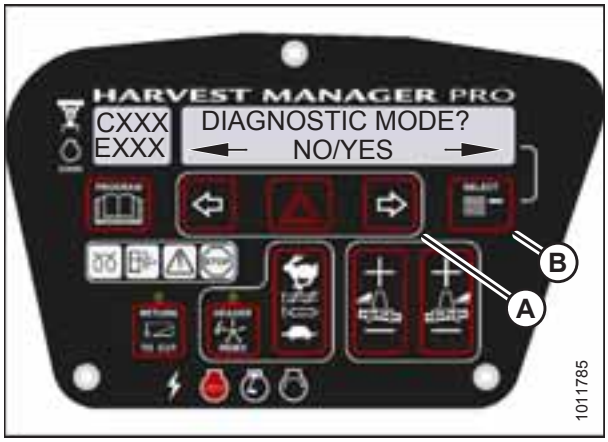


Figure 4.128: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

Figure 4.129: Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until KNIFE DRIVE SPD XXXX is displayed on the upper line.

   IMPORTANT:

   Do **NOT** overspeed the knife drive.
8. Press and hold HAZARD (C) button.
   - Press left arrow (B) to decrease knife speed.
   - Press right arrow (D) to increase knife speed.

   IMPORTANT:

   Verify the knife drive is functioning properly.
9. Release the HAZARD (C) button. The knife will stop.
10. Press PROGRAM (A) to exit programming mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

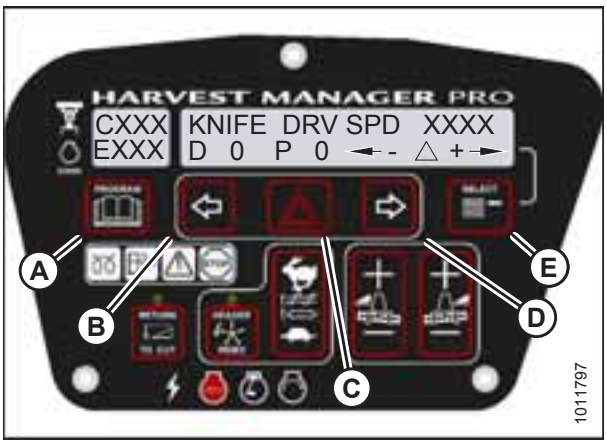


Figure 4.130: Knife Drive

4.9.5 Testing the Draper Drive Circuit Activate Function Using the Cab Display Module

IMPORTANT:

Do **NOT** overspeed a drive. Overspeeding can lead to vibration, belt failures, or other overspeeding related problems.

NOTE:

- A draper header **MUST** be attached to windrower to follow this procedure.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.131: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

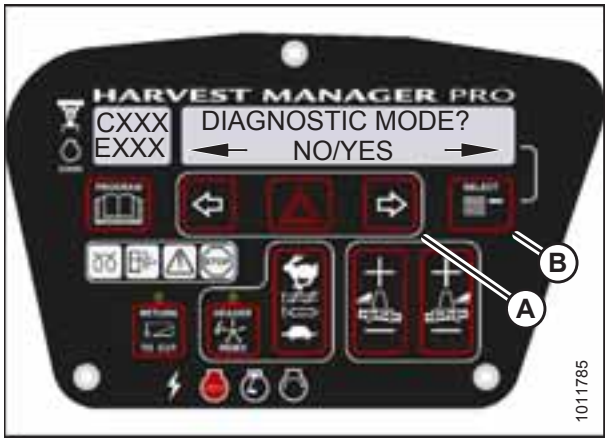


Figure 4.132: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

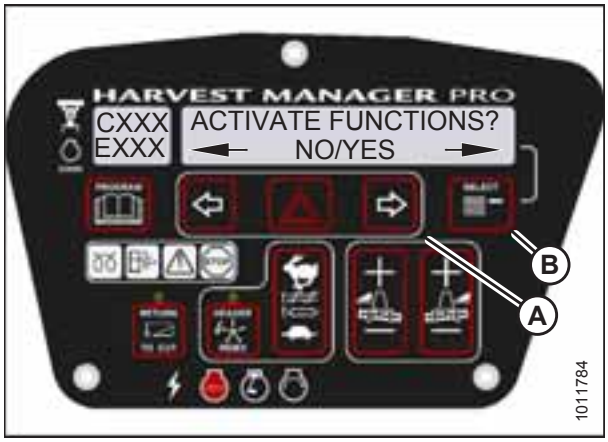


Figure 4.133: Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until DRAPER DRV SPD XXXX is displayed on the upper line.

   IMPORTANT:

   Do **NOT** overspeed the drapers.

8. Press and hold HAZARD (C) button.

   - Press left arrow (B) to decrease draper speed.
   - Press right arrow (D) to increase draper speed.

   IMPORTANT:

   Verify the draper drive is functioning properly.

9. Release the HAZARD (C) button. The drapers will stop.
10. Press PROGRAM (A) to exit programming mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

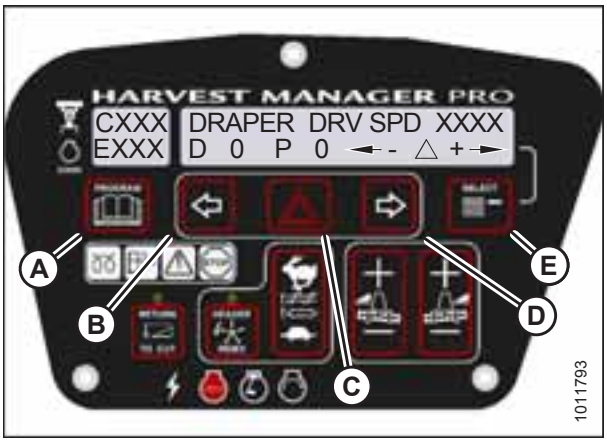


Figure 4.134: Draper Drive

4.9.6 Testing the Reel Drive Circuit Activate Function Using the Cab Display Module

IMPORTANT:

Do **NOT** overspeed a drive. Overspeeding can lead to vibration, belt failures, or other overspeeding related problems.

NOTE:

- The header **MUST** be attached to the windrower to follow this procedure.
- This procedure does not apply to rotary disc headers.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.135: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.136: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

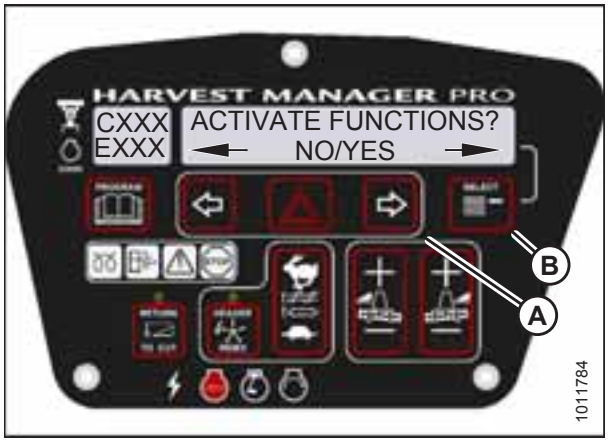


Figure 4.137: Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until REEL DRV SPD XXXX is displayed on the upper line.

   IMPORTANT:

   Do **NOT** overspeed the reel.
8. Press and hold HAZARD (C) button.
   - Press left arrow (B) to decrease reel speed.
   - Press right arrow (D) to increase reel speed.

   IMPORTANT:

   Verify the reel drive is functioning properly.
9. Release HAZARD (C) button. The reel will stop.
10. Press PROGRAM (A) to exit programming mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

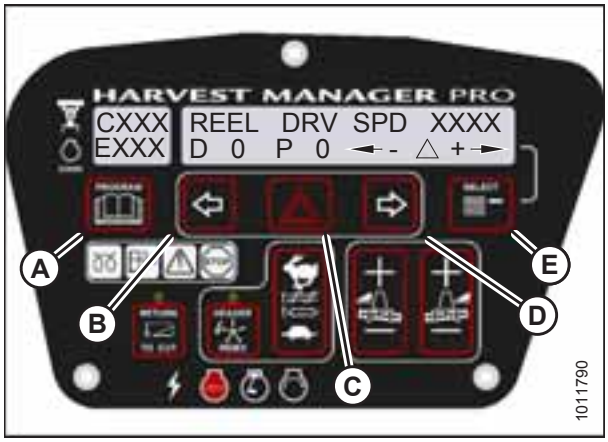


Figure 4.138: Reel Drive

4.9.7 Testing the Rotary Disc Drive Circuit Activate Function Using the Cab Display Module

IMPORTANT:

Do **NOT** overspeed a drive. Overspeeding can lead to vibration, belt failures, or other overspeeding related problems.

NOTE:

- A rotary disc header **MUST** be attached to windrower to follow this procedure.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.139: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed on upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

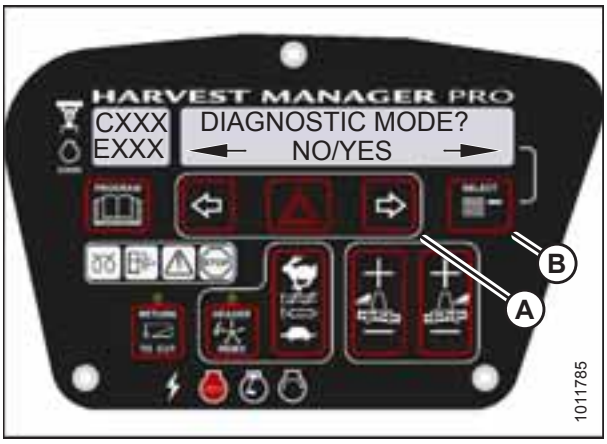


Figure 4.140: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

Figure 4.141: Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until DISC DRV SPD XXXX is displayed on the upper line.

   IMPORTANT:

   Do **NOT** overspeed the disc drive.
8. Press and hold HAZARD (C) button.
   - Press left arrow (B) to decrease disc speed.
   - Press right arrow (D) to increase disc speed.

   IMPORTANT:

   Verify the disc drive is functioning properly.
9. Release HAZARD (C) button. The disc drive will stop.
10. Press PROGRAM (A) to exit programming mode or press SELECT to proceed to next ACTIVATE FUNCTION.

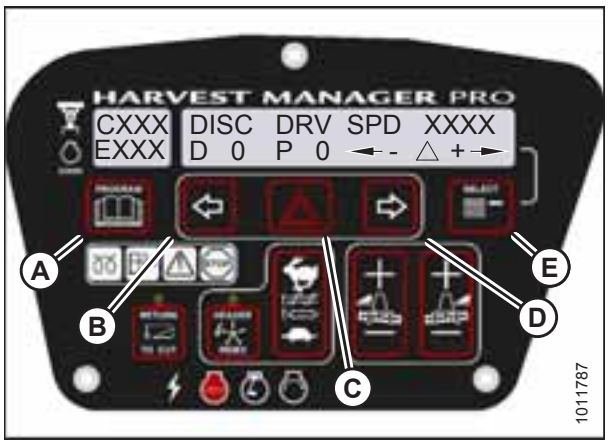


Figure 4.142: Disc Drive

4.9.8 Testing the Double Windrower Attachment Drive Activate Function Using the Cab Display Module

IMPORTANT:

Do **NOT** overspeed a drive. Overspeeding can lead to vibration, belt failures, or other overspeeding related problems.

NOTE:

- During regular drive operation, the maximum possible values for both the Desired (255) and Profile (1020) PWM settings are never reached. Take care when allowing a drive to operate at these values for any length of time. For more information, refer to .
- The DWA must be attached to the windrower and activated under the WINDROWER SETUP menu. For more information, refer to *4.3.8 Activating the Double Windrow Attachment, page 111*.
- Engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode. Press SELECT (B).
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.143: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

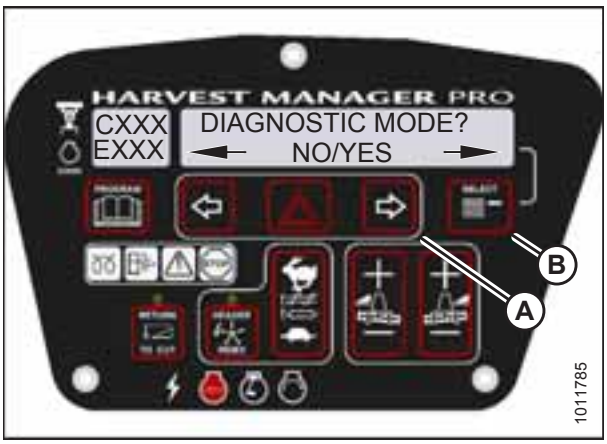


Figure 4.144: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

Figure 4.145: Functions

7. Press SELECT (E) until ACTIVATE DWA DRV is displayed on the upper line.

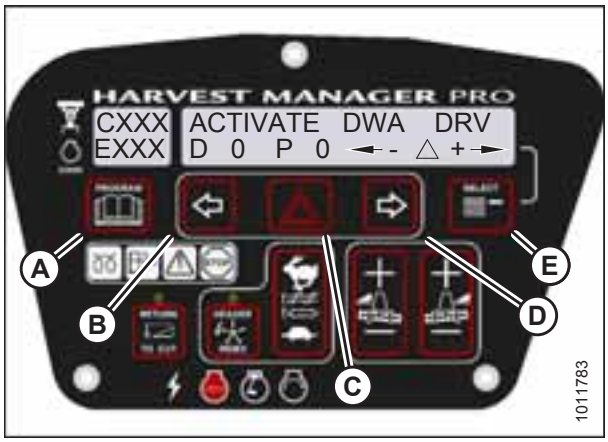


Figure 4.146: DWA Drive

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Do **NOT** overspeed the DWA drive.

8. Press and hold HAZARD (C) button.
   - Press left arrow (B) to decrease DWA drive speed.
   - Press right arrow (D) to increase DWA drive speed.

IMPORTANT:

Verify the DWA drive is functioning properly.

9. Release HAZARD (C) button. The DWA drive will stop.
10. Press PROGRAM (A) to exit programming mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

4.9.9 Testing the Reel Fore-Aft Activate Function Using the Cab Display Module

NOTE:

- The header **MUST** be attached to windrower to perform this procedure.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

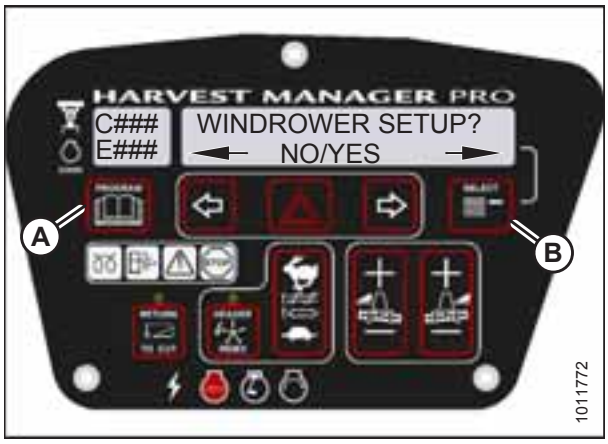


Figure 4.147: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

Figure 4.148: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).

CAUTION

Check to be sure all bystanders have cleared the area.

Figure 4.149: Functions

7. Press SELECT (D) until ACTIVATE REEL F/A is displayed on the upper line.
   - FORE/AFT is displayed on the lower line.
8. Verify reel fore-aft is functioning properly.
   a. Press and hold left arrow (B) to move reel forward. Press and hold right arrow (C) to move reel backward.
   b. Press PROGRAM (A) to exit programming mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

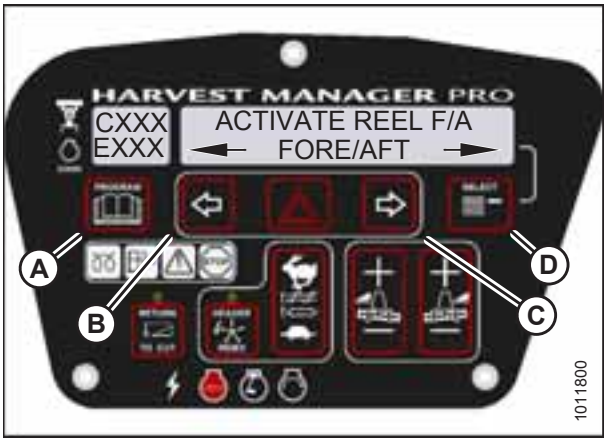


Figure 4.150: Reel Fore-Aft

4.9.10 Activating the Hydraulic Purge Using the Cab Display Module

The hydraulic purge removes air from the hydraulic pump system after it has been repaired or changed.

NOTE:

Engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (B) on the cab display module (CDM) to enter programming mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.151: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right arrow (A) to select YES. Press SELECT (B).

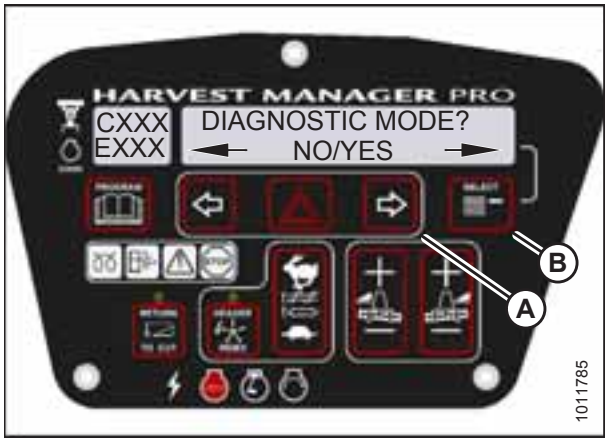


Figure 4.152: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right arrow (A) to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.
   - DOWN/UP is displayed on the lower line.

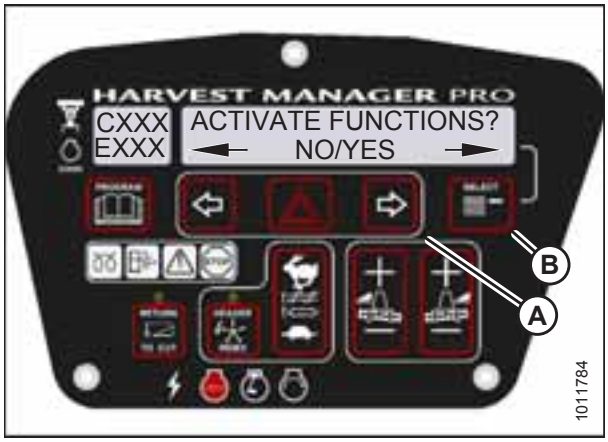


Figure 4.153: Functions

7. Press SELECT (B) until ACTIVATE HYD PURGE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right arrow (A) to select YES. Press SELECT (B).
   - TO ACTIVATE PURGE is displayed on the upper line.
   - PRESS AND HOLD is displayed on the lower line.

   NOTE:

   Holding the right arrow (A) activates a timed purge cycle. The CDM will jump to the exit menu if the arrow is released before the end of the timed cycle.

Figure 4.154: Hydraulic Purge

CAUTION

Check to be sure all bystanders have cleared the area.

9. Press and hold right arrow (A) to activate purge cycle.
   - PURGE CYCLE STARTED will display on the upper line.
10. When PURGE CYCLE ENDED is displayed release right arrow (A).
    - NO EXIT YES is displayed on the lower line.
11. Press right arrow to select YES. Press SELECT.
12. Press PROGRAM to exit programming mode or press SELECT to proceed to next ACTIVATE FUNCTION.

Figure 4.155: Hydraulic Purge Cycle

Chapter 5: Performing Operational Checks

Perform all procedures in this chapter in the order in which they are listed.

5.1 Checking Safety System

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

CAUTION

Check to be sure all bystanders have cleared the area.

A properly functioning safety system should operate as follows. If the system does not function as described, refer to the windrower technical manual for adjustment procedures.

- With the ground speed lever (GSL) in N-DETENT position and the steering wheel locked (centered), the park brakes engage and the cab display module (CDM) displays IN PARK accompanied by an audible beep.
- The starter should engage **ONLY** when the GSL is in N-DETENT, the steering wheel is locked (centered), and the header drive switch is in the OFF position.
- The brake should engage and the machine should **NOT** move after engine start-up.
- The steering wheel should **NOT** lock with the engine running and the GSL out of N-DETENT.

1. Ensure the battery disconnect switch is in the POWER ON position.

   NOTE:

   The battery disconnect switch (A) is located on the right (cab-forward) frame rail behind the maintenance platform and can be accessed by moving the platform rearwards.

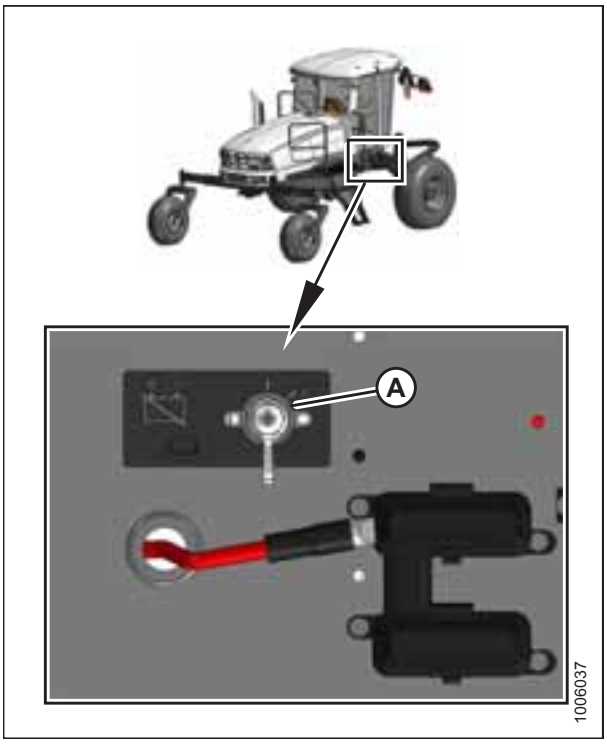


Figure 5.1: Battery Switch

Header drive engaged safety check:

1. Shut down the engine, and pull up on collar (B) while pressing down on switch (A) to engage the header drive.
2. Try starting the engine and confirm the cab display module (CDM) displays HEADER ENGAGED on the upper line and DISENGAGE HEADER on the lower line.
3. If the engine turns over, the safety system requires adjustment or repair. Refer to the windrower technical manual for adjustment procedures.

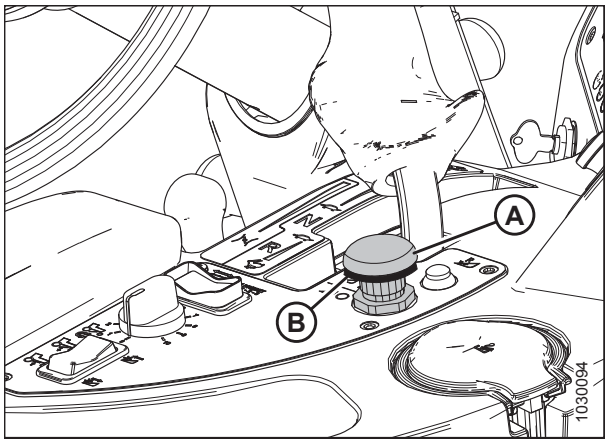


Figure 5.2: Header Drive Switch

Pintle switch safety check:

1. Shut down the engine, and remove the key.
2. Open the engine compartment hood.
3. Pry the steering interlock away from pintle arms (A) by inserting a wedge or pry bar between one of the interlock channels (B) and the pintle arm.
4. Insert a wooden block approximately 19 mm (3/4 in.) thick between the opposite channel and the pintle arm so the interlock channel is clear of the pintle arm.
5. Turn the steering wheel off-center, and move the GSL to N-DETENT.
6. Try starting the engine and confirm the CDM flashes CENTER STEERING accompanied by a short beep with each flash. The engine should **NOT** turn over.
7. If the engine turns over, the safety system requires adjustment or repair. Refer to the windrower technical manual for adjustment procedures.
8. Remove the key from the ignition.
9. Remove the wooden block and close the hood.

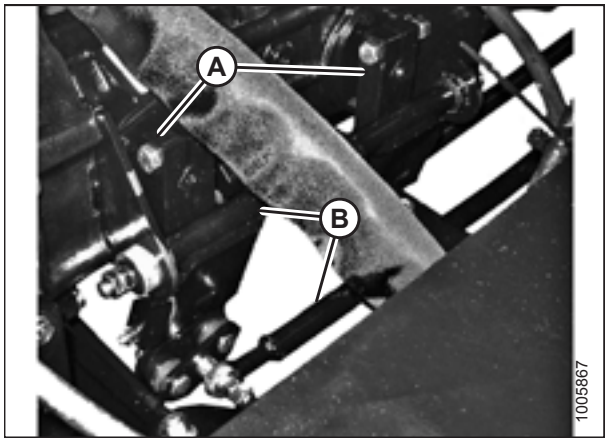


Figure 5.3: Pintle Arms

Steering and neutral safety check:

1. Shut down the engine and center the steering wheel. Place the GSL (A) in NEUTRAL, but not in N-DETENT.
2. Try starting the engine and confirm the CDM flashes CENTER STEERING on the upper line and PLACE GSL INTO N on the lower line accompanied by a short beep with each flash. The engine should **NOT** turn over.
3. If the engine turns over, the safety system requires adjustment. Refer to the windrower technical manual for adjustment procedures.

Figure 5.4: Operator's Station

Seat base lock safety check:

1. Ensure the operator's station is **NOT** locked. To unlock operator's station, pull up and hold knob (B) to release latch (C), and turn steering wheel to unlock operator's station.
2. Center the steering wheel and place the GSL (A) in N-DETENT. Try starting the engine and confirm that the engine cranks but does **NOT** start, and the CDM displays SEAT BASE NOT LOCKED.
3. If the engine starts, the safety system requires adjustment. Refer to the windrower technical manual for adjustment procedures.

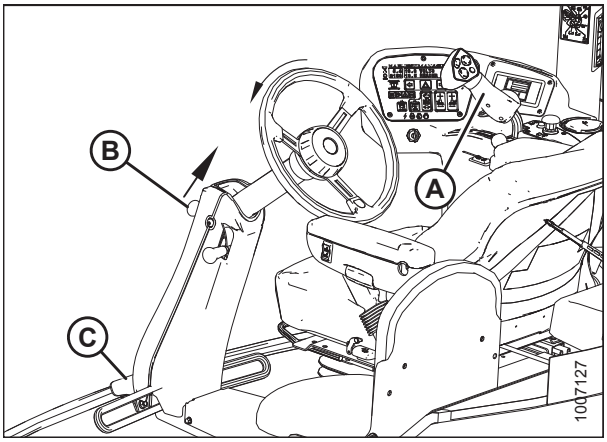


Figure 5.5: Operator's Station

5.2 Checking Operator's Presence System

CAUTION

Check to be sure all bystanders have cleared the area.

1. Start the engine.
2. Place ground speed lever (GSL) (A) in NEUTRAL and turn the steering wheel until it locks.
3. Engage header drive switch (B).
4. Stand up from the operator's seat. The header should shut off after approximately 5 seconds. If the header does not shut off, the operator presence system requires adjustment. Refer to the technical manual.

   NOTE:

   To restart the header, move header drive switch (B) to the OFF position and then back to the ON position.

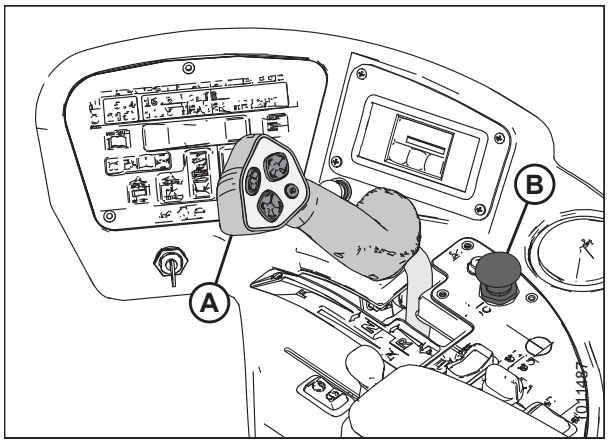


Figure 5.6: Operator Console

5. Position the GSL (A) in NEUTRAL and in N-DETENT.
   a. Swivel the operator's station but do **NOT** lock it into position.
   b. Move the GSL out of N-DETENT. The engine should shut down and the lower display will flash LOCK SEAT BASE —> CENTER STEERING WHEEL —> NOT IN NEUTRAL.
   c. Swivel and lock the operator's station and the display should return to normal.
   d. If the engine does not shut down, the seat position switches require adjustment. Refer to the technical manual.
6. Start the engine and drive the windrower at a speed **LESS THAN** 8 km/h (5 mph):
   a. Stand up from the operator's seat.
   b. Ensure the CDM flashes NO OPERATOR on the upper line and ENGINE SHUTDOWN 5…4…3…2…1…0 on the lower line accompanied by a steady tone. When the CDM display reaches 0, the engine will shut down.
   c. If the engine does not shut down, the operator presence system requires adjustment. Refer to the windrower technical manual.
7. Start the engine and drive the windrower at a speed **MORE THAN** 8 km/h (5 mph):
   a. Stand up from the operator's seat.
   b. The CDM beeps once and displays NO OPERATOR on the lower line.
   c. If the CDM does not beep and display message, the operator presence system requires adjustment. Refer to the windrower technical manual.

5.3 Checking Windrower Startup

CAUTION

Check to be sure all bystanders have cleared the area.

1. Start the engine.

   NOTE:

   The brakes should engage and the machine should not move after engine start-up.

2. Ensure the steering wheel is centered. Move ground speed lever (GSL) (A) straight out of N-DETENT (neither forward nor reverse). The machine should not move.
3. Check that the steering wheel is free to move.
4. If the machine does not function as described, the system requires adjustment. Refer to the windrower technical manual.

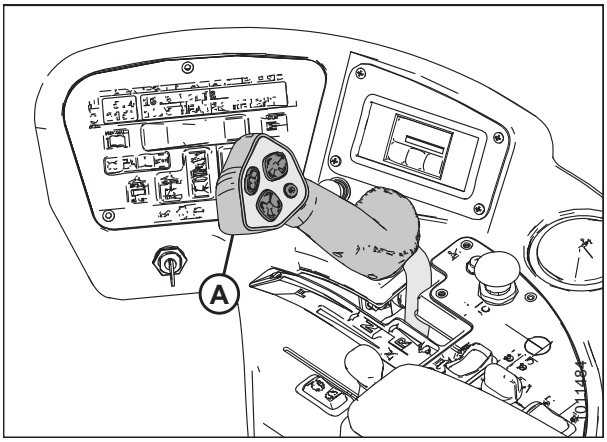


Figure 5.7: Operator Console

5.4 Checking Engine Speed

1. Move the throttle to idle position.
2. Check the engine speed on cab display module (CDM) (A) and compare it to the value in the table below.
3. Move the throttle to maximum rpm position.
4. Check the engine speed on CDM (A) and compare it to the value in the table below.

Table 5.1 Engine Speed

Idle rpm	Maximum rpm (No Load)
1000 +/- 30 rpm	2300 +/- 30 rpm

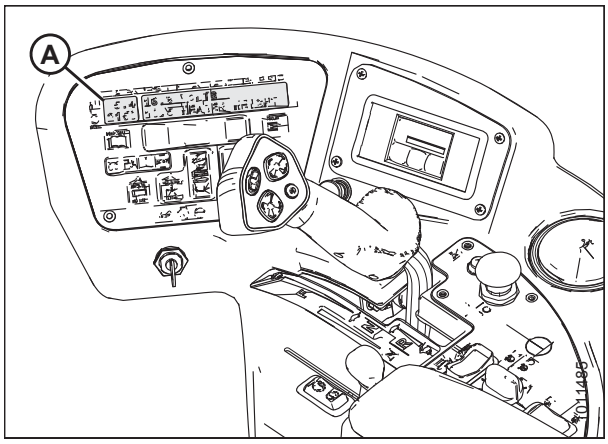


Figure 5.8: Cab Display Module (CDM)

5.5 Checking Gauges and Cab Display Module Display

1. Check that the fuel and diesel exhaust fluid (DEF) gauges are working by pressing and holding the fuel gauge icon (A) for 2 seconds—the brightness symbol and backlight function becomes active. The fuel gauge icon will reappear if nothing is pressed for 5 seconds.

Figure 5.9: Fuel and DEF Gauges

2. Ensure the cab display module (CDM) display (A) is working by pushing SELECT button (B) on the CDM or SELECT button (C) on the ground speed lever (GSL).
3. If the system does not function as described, refer to the windrower technical manual.

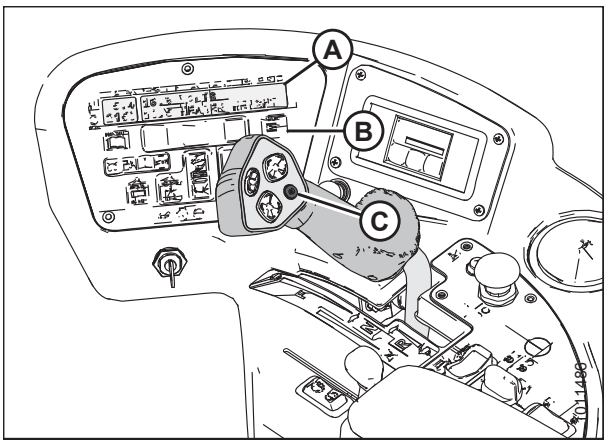


Figure 5.10: Operator Console

5.6 Checking Electrical System

1. Push SELECT button (C) on the ground speed lever (GSL) or SELECT button (B) on the cab display module (CDM) until CDM display (A) shows VOLTS. The display indicates the condition of the battery and alternator. To evaluate the reading, refer to Table *5.2, page 172*.

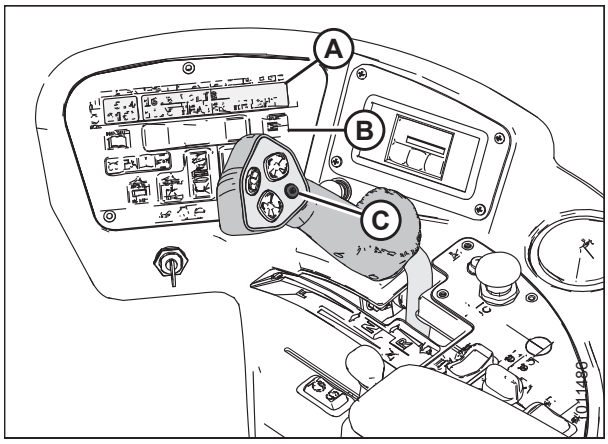


Figure 5.11: Operator Console

Table 5.2 Battery and Alternator Condition

Ignition	Engine	Reading	Indicated Condition
ON	Running	13.8–15.0	Normal
		>16.0 (see note)	Regulator out of adjustment
		<12.5 (see note)	Alternator not working Regulator out of adjustment
	Shut down	12.0	Battery normal

NOTE:

Display flashes voltage reading accompanied by a single loud tone every 30 minutes until condition is fixed.

5.7 Checking Exterior Lights

NOTE:

Rotate the operator's seat to cab-forward mode before checking the exterior lights. If the operator's seat is already in cab-forward mode, skip to Step *5, page 174*.

1. Turn the ignition key to RUN, or start the engine.
2. Place GSL (A) in N-DETENT.

   IMPORTANT:

   If the GSL is NOT in N-DETENT, the GSL cable may be damaged when you swivel the operator's station.
3. Pull up on knob (B) and hold to release latch (C) at the base of the steering column.
4. Turn the steering wheel counterclockwise to pivot the operator's station clockwise 180° until the pin engages the latch to secure the operator's station in the new position.

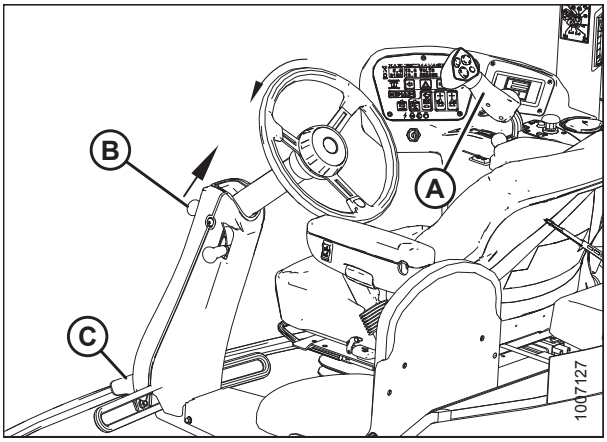


Figure 5.12: Operator Console

5. Turn field light switch (A) to the ON position and ensure front field lights (B), rear flood lights (C), and rear swath lights (D) are functioning.

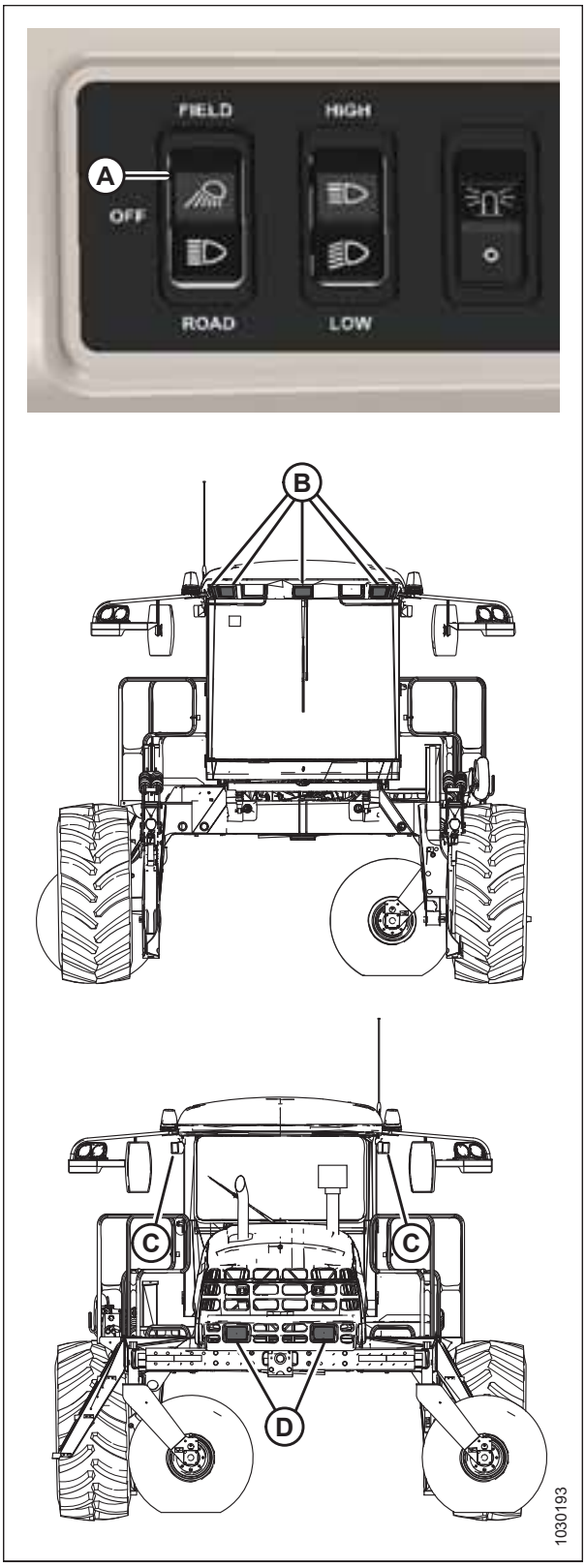


Figure 5.13: Exterior Lights – Cab Forward

6. Turn road light switch (A) to the ON position and ensure front road lights (B) and rear red tail/brake lights (C) (if equipped) are functioning.
7. Activate high/low switch (D) and check lights.
8. Activate amber turn signal/hazard warning lights (E) using switches on the cab display module (CDM) and check lights.
9. Turn off lights.

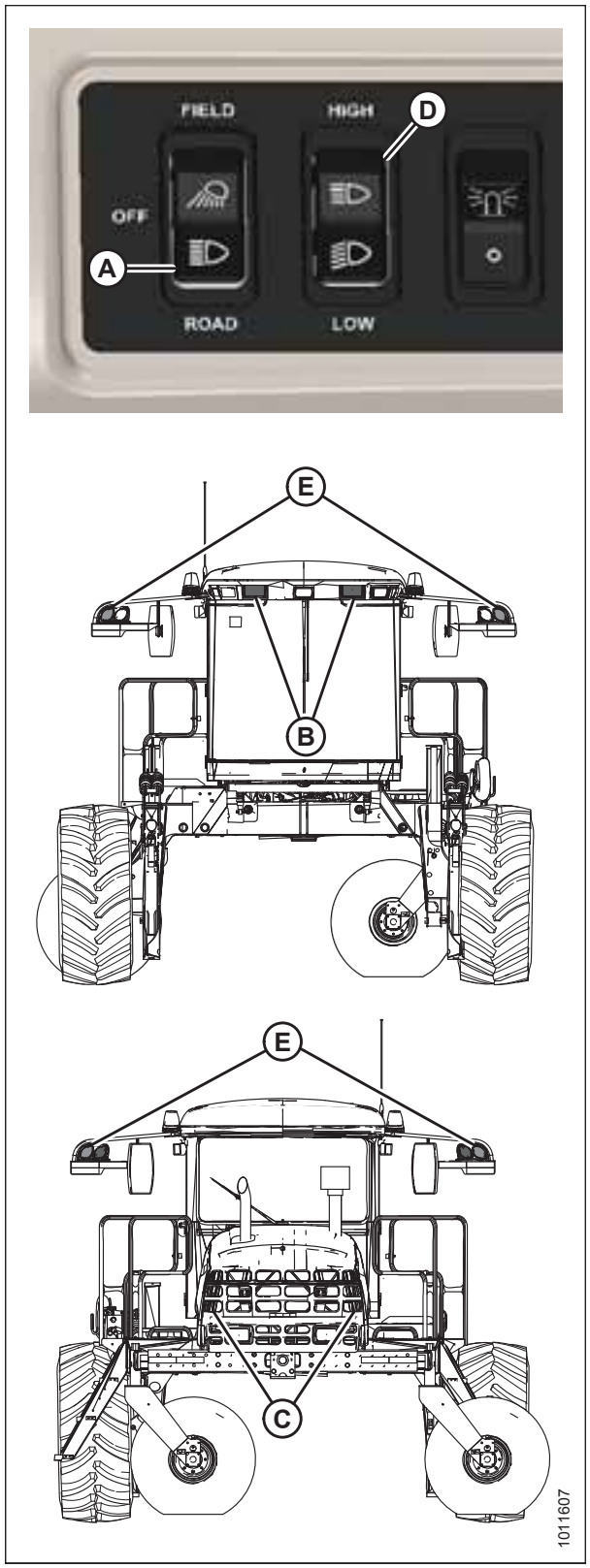


Figure 5.14: Exterior Lights – Cab Forward

10. Turn beacon switch (A) to the ON position and ensure amber beacons (B) are functioning.
11. If an exterior light is not functioning, refer to the windrower technical manual.

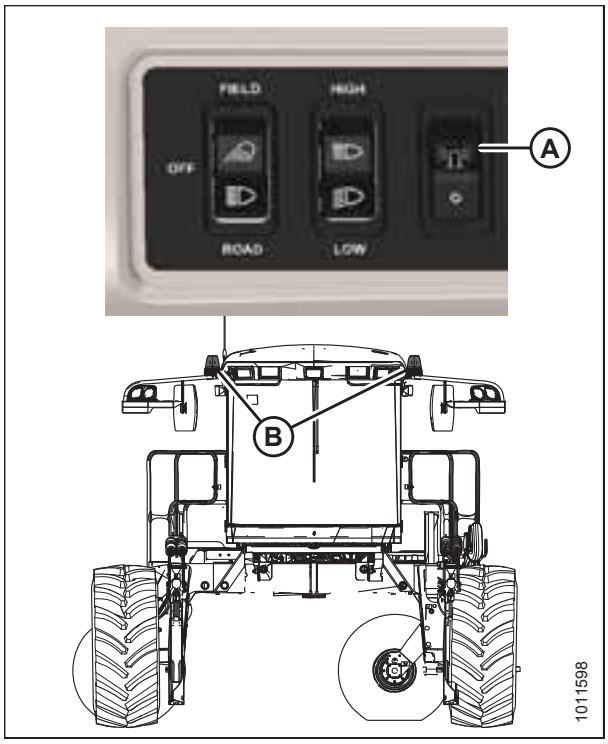


Figure 5.15: Exterior Lights – Beacons

5.8 Checking Auto Road Light

The beacon and hazard lights are included in the auto road light feature. The beacon and hazard lights will turn on when this feature is activated, and can only be turned off by engaging the header drive.

This feature will activate when

- Windrower is in cab- or engine-forward mode
- Engine is running
- Header is disengaged
- Transmission is in either mid or high range

Moving the ground speed lever (GSL) out of neutral (brake off) will switch the white lights from field/work lights to road lights, if the switch is in the field/road lights position.

5.9 Checking Horn

1. Push HORN button (A) and listen for horn.

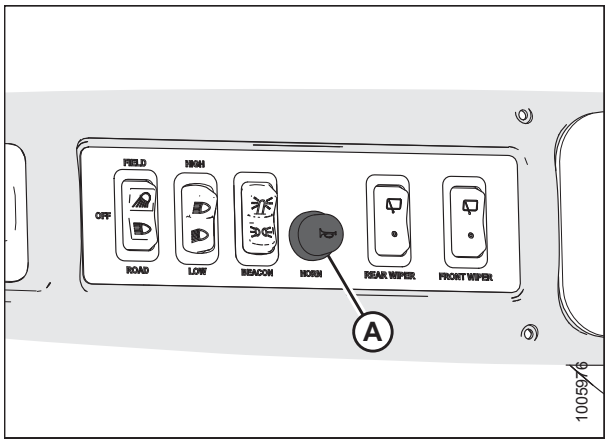


Figure 5.16: Horn Button

5.10 Checking Interior Lights

1. Switch road and field lights ON and OFF using switch (A).

   NOTE:

   Ambient light in roof liner (B) and interior light (C) work only when road or field lights (A) are switched ON.

2. If interior lights do not function properly, refer to windrower technical manual.

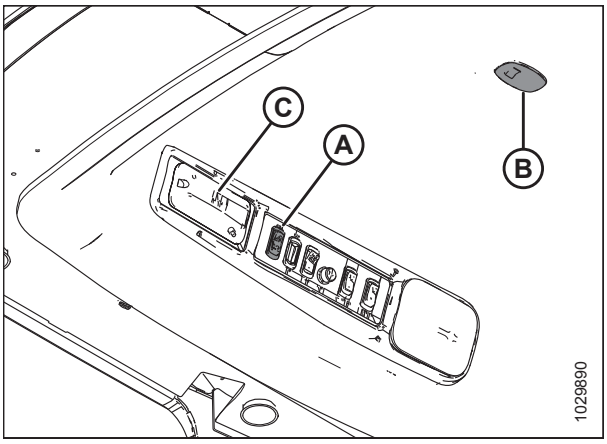


Figure 5.17: Interior Lights

5.11 Checking Air Conditioning and Heater

Figure 5.18: Air Conditioning (A/C) and Heater Controls

1. Confirm that the following A/C and heating controls function properly:
   - **Blower switch (A)**: Controls blower speed. Switch settings are OFF, LO, MEDIUM, and HI.
   - **Air conditioning switch (B)**: Controls A/C system. When set to ON, A/C operates if blower switch (A) is switched ON. When set to OFF, the A/C system does not operate.
   - **Outside air switch (C)**: Controls air source. When set to FRESH AIR, booster fan starts and draws filtered outside air into the cab. When set to RECIRCULATED, booster fan stops and air inside cab is recirculated.
   - **Temperature control (D)**: Controls cab temperature. Turn knob clockwise to increase temperature, and turn knob counterclockwise to decrease temperature.

   IMPORTANT:

   To distribute oil throughout the A/C system, perform the following steps:

2. Start the engine and turn blower switch (A) to the LO setting then turn temperature control (D) to maximum heating, and turn A/C switch (B) to OFF.
3. Turn A/C switch (B) from OFF to ON position for 1 second, then back to OFF for 5 to 10 seconds. Repeat this step ten times.
4. Shut down the engine, and remove the key from the ignition.

5.12 Checking Manuals

Manuals are stored in the manual storage case (A) behind the operator's seat.

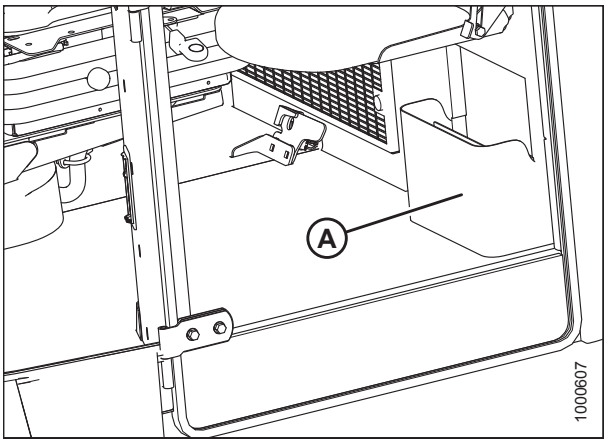


Figure 5.19: Manual Storage Case

1. Ensure the following manuals are included with the windrower:
   - Operator's Manual
   - Parts Catalog
   - Quick Card
   - Engine Manual

Figure 5.20: Manuals and Quick Card

5.13 Performing Final Steps

1. After the predelivery checks are complete, remove the plastic covering from the cab display module (CDM), and the seats.
2. Locate the bag inside the cab containing the GPS mount kit, and install kit in accordance with the instructions in the kit. If not installing kit, label bag (GPS Completion kit) and place kit in toolbox for safekeeping.
3. Do **NOT** remove the drive wheel torque procedure decal from the windshield.

Figure 5.21: Windshield Decal

Chapter 6: Attaching Headers

6.1 Attaching Header Boots

Header boots are required to attach a D Series or D1 Series Draper Header to the windrower. Attach header boots (supplied with header) to windrower lift linkage if not already installed.

IMPORTANT:

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and **NOT** in engaged position (A).

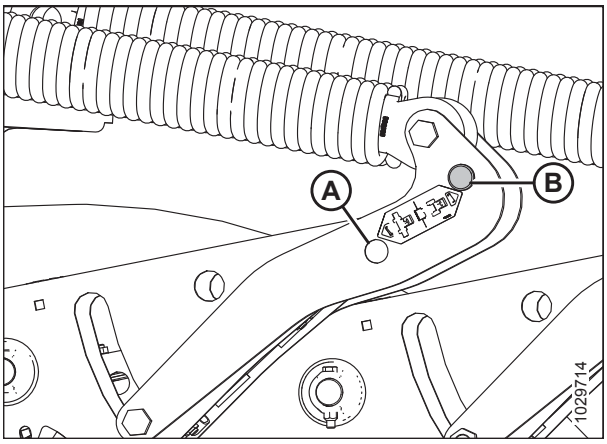


Figure 6.1: Header Float Linkage

1. Remove pin (B) from boot (A).

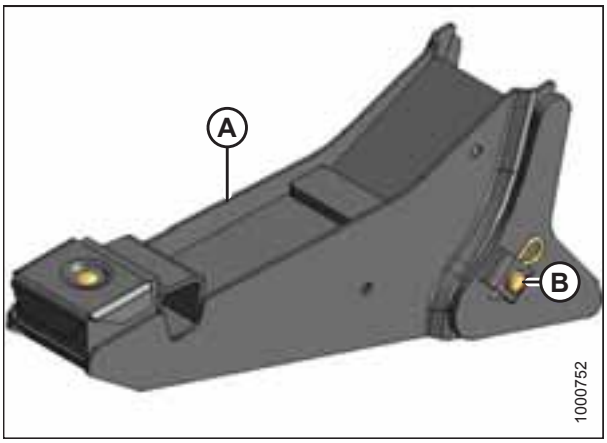


Figure 6.2: Header Boot

2. Position boot (B) onto lift linkage (A) and reinstall pin (C). Pin may be installed from either side of boot.
3. Secure pin (C) with hairpin (D).
4. Repeat for opposite side.

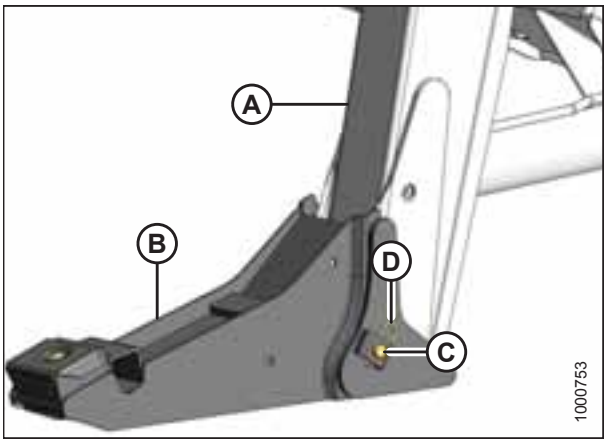


Figure 6.3: Header Boot

6.2 Attaching a D Series or D1 Series Draper Header

D and D1 Series Draper Headers can be attached to an M155*E4* Self-Propelled Windrower.

The M155*E4* Self-Propelled Windrower is factory-equipped to run a D or D1 Series Draper Header.

If installing an HC10 Hay Conditioner, Reverser kit (MD #B4656) is recommended. If necessary, obtain the recommended kit and install it in accordance with the instructions supplied with the kit.

Refer to the following instructions based on the type of center-link installed on your windrower:

- *6.2.1 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link with Optional Self-Alignment, page 184*
- *6.2.2 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link without Self-Alignment, page 190*

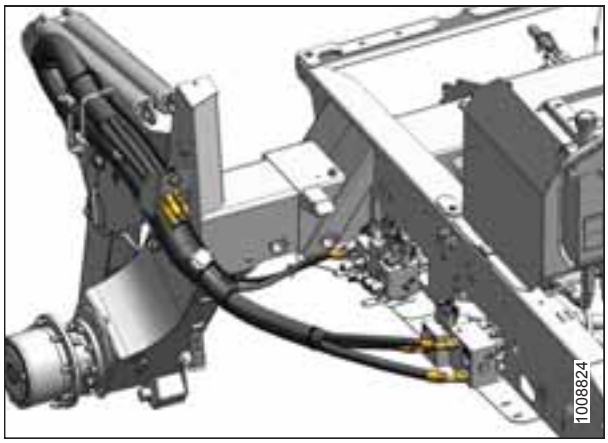


Figure 6.4: M155*E4* Draper Header Hydraulics

6.2.1 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link with Optional Self-Alignment

NOTE:

Draper header boots must be installed onto the windrower lift linkage before starting this procedure. Refer to *6.1 Attaching Header Boots, page 183*.

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.
2. Remove hairpin (A) from pins (B), and remove pins from both header legs.

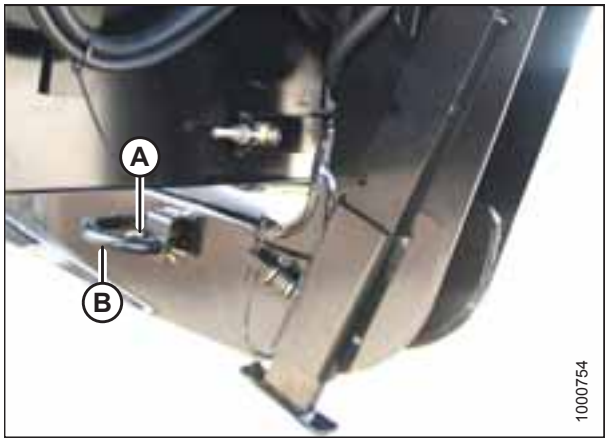


Figure 6.5: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine for the first time the windrower is operated in a season, remove the protective cover from the exhaust stack.

3. Start the engine and activate HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

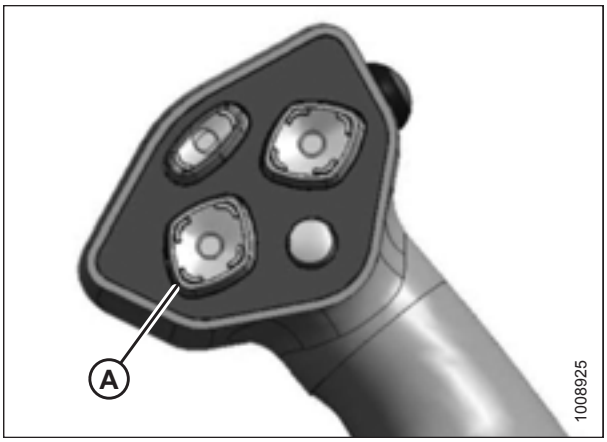


Figure 6.6: Ground Speed Lever

4. Press REEL UP switch (A) on the GSL to raise the center-link until the hook is above the attachment pin on the header.

IMPORTANT:

If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

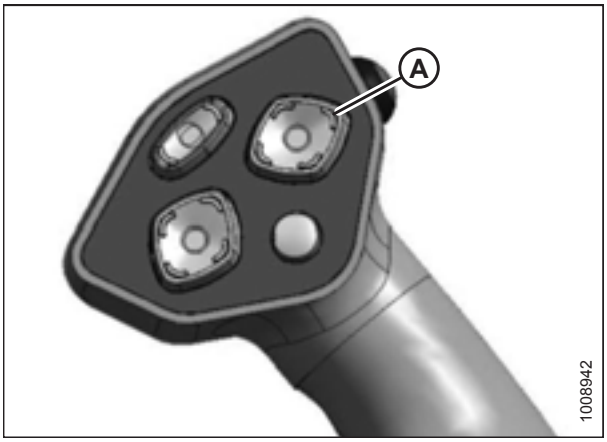


Figure 6.7: Ground Speed Lever

5. Drive the windrower slowly forward until boots (A) enter header legs (B). Continue driving slowly forward until the lift linkages contact the support plates in the header legs and the header nudges forward.
6. Ensure the lift linkages are properly engaged in the header legs and are contacting the support plates.

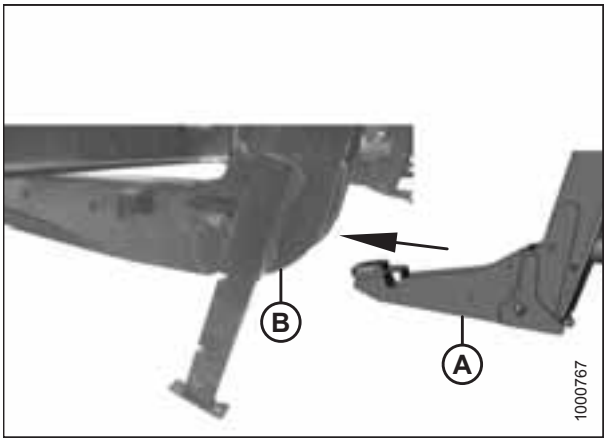


Figure 6.8: Header Leg and Boot

7. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - REEL UP (A) to raise the center-link
   - REEL DOWN (B) to lower the center-link
   - HEADER TILT UP (C) to retract the center-link
   - HEADER TILT DOWN (D) to extend the center-link

IMPORTANT:

Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

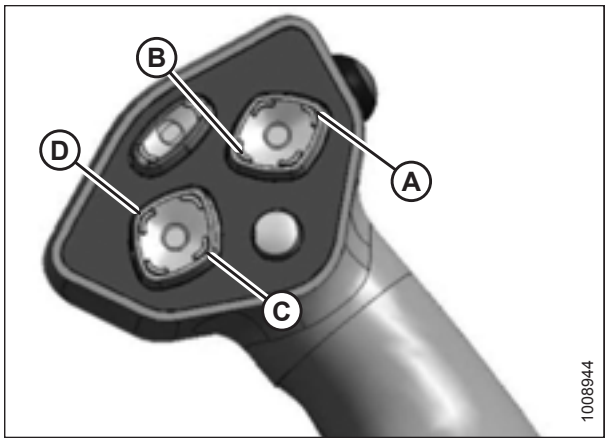


Figure 6.9: Ground Speed Lever

8. Lower center-link (A) onto the header with the REEL DOWN switch on the GSL until it locks into position (hook release [B] is down).
9. Check that center-link (A) is locked onto header by pressing the REEL UP switch on the GSL.

CAUTION

Check to be sure all bystanders have cleared the area.

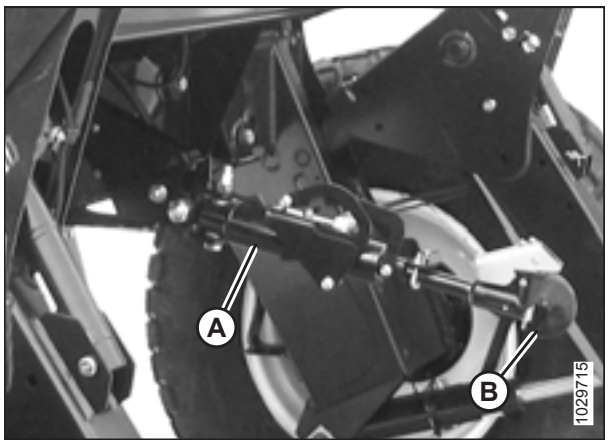


Figure 6.10: Hydraulic Center-Link

10. Press HEADER UP switch (A) to raise the header to maximum height.
11. If one end of the header does **NOT** fully raise, rephase the lift cylinders as follows:
    a. Press and hold the HEADER UP switch until both cylinders stop moving.
    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:

    It may be necessary to repeat this procedure if there is air in the system.

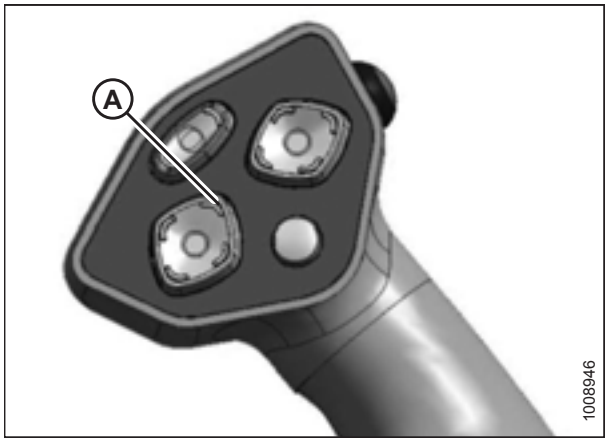


Figure 6.11: Ground Speed Lever

12. Engage the safety props on both lift cylinders as follows:
    a. Shut down the engine, and remove the key from the ignition.
    b. Pull lever (A) and rotate it towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

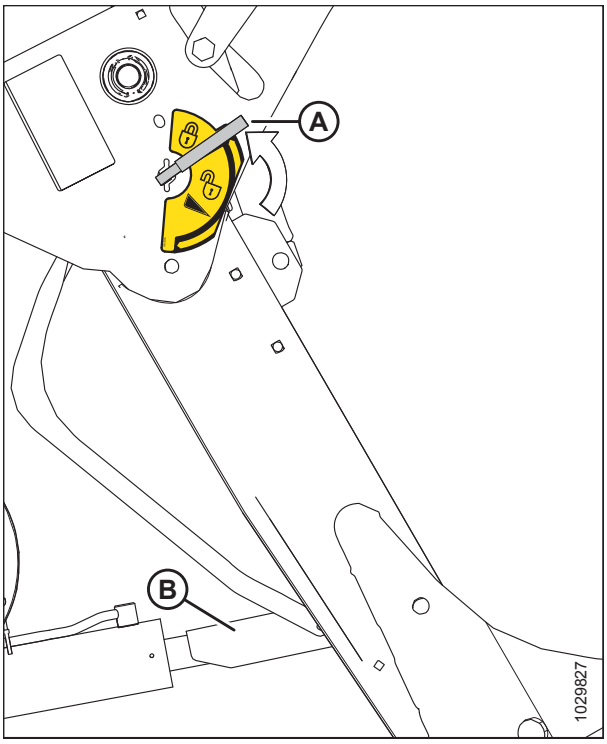


Figure 6.12: Safety Prop

13. Install pin (B) through the header leg (engaging U-bracket in lift linkage) on both sides and secure with hairpin (A).
14. Raise header stand (D) to storage position by pulling spring pin (C) and lifting stand into uppermost position. Release spring pin.

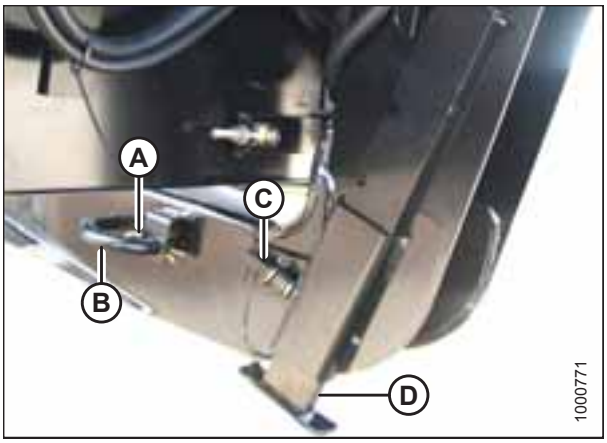


Figure 6.13: Header Leg

15. Remove the clevis pin from storage position (B) in linkage and insert into hole (A) to engage the float springs. Secure with hairpin.

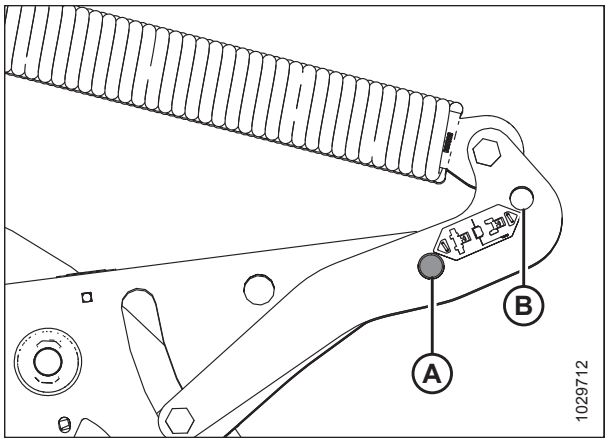


Figure 6.14: Header Float Linkage

16. Disengage the safety prop by turning lever (A) downwards until lever locks into vertical position.
17. Repeat for opposite safety prop.

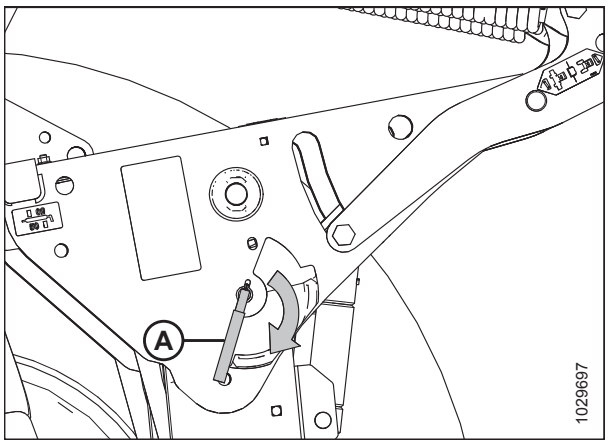


Figure 6.15: Safety Prop Lever

CAUTION

Check to be sure all bystanders have cleared the area.

18. Start the engine and press HEADER DOWN switch (A) on the GSL to fully lower the header.
19. Stop the engine and remove key from ignition.

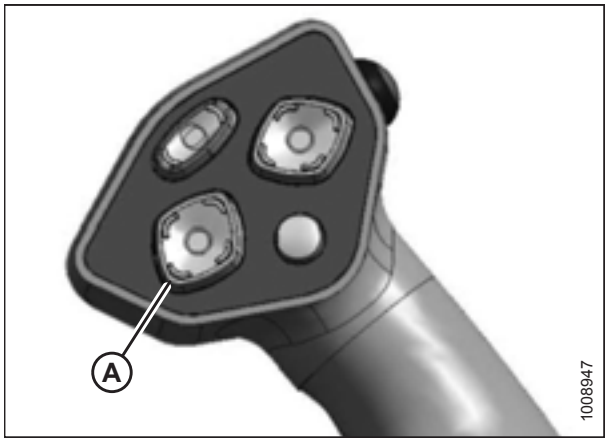


Figure 6.16: Ground Speed Lever

20. Connect header drive hoses (A) and electrical harness (B) to header. For instructions, refer to the header operator's manual.

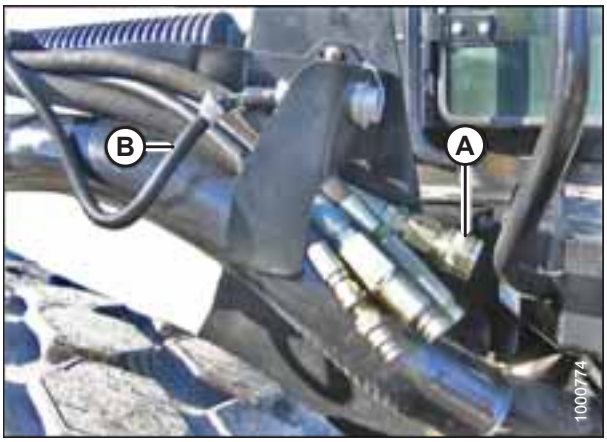


Figure 6.17: Header Drive Hoses and Harness

21. Connect reel hydraulics (A) at right cab-forward side of windrower. For instructions, refer to the draper header operator's manual.
22. Start the engine, and raise and lower the header and the reel a few times to remove trapped air.

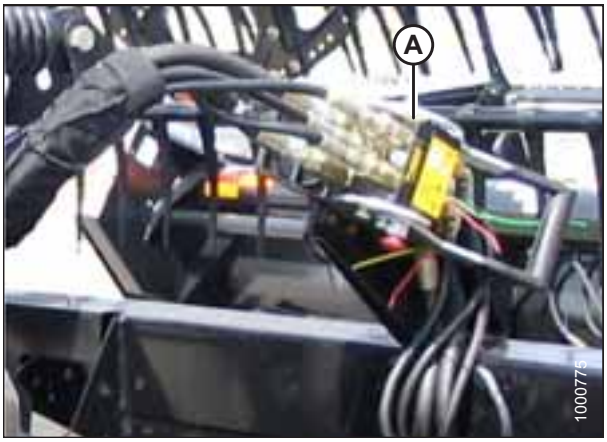


Figure 6.18: Reel Hydraulics

6.2.2 Attaching a D Series or D1 Series Draper Header – Hydraulic Center-Link without Self-Alignment

NOTE:

Draper header boots must be installed onto the windrower lift linkage before starting this procedure.

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.
2. Remove hairpin (A) from pins (B), and remove pins from both header legs.

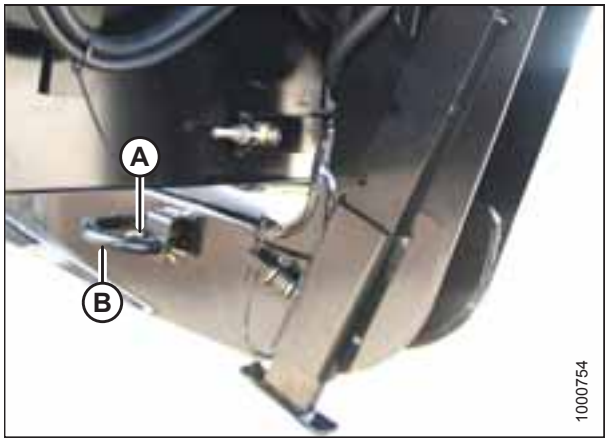


Figure 6.19: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine for the first time the windrower is operated in a season, remove the protective cover from the exhaust stack.

3. Start the engine and activate HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

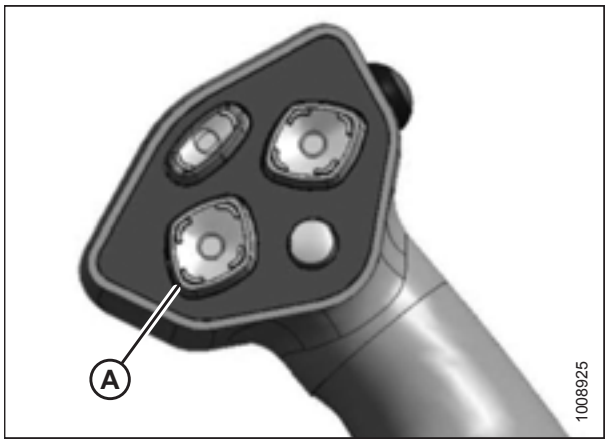


Figure 6.20: Ground Speed Lever

4. Remove pin (A) from frame linkage and raise center-link (B) until hook is above the attachment pin on header. Replace pin (A) to hold center-link in place.

   IMPORTANT:

   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

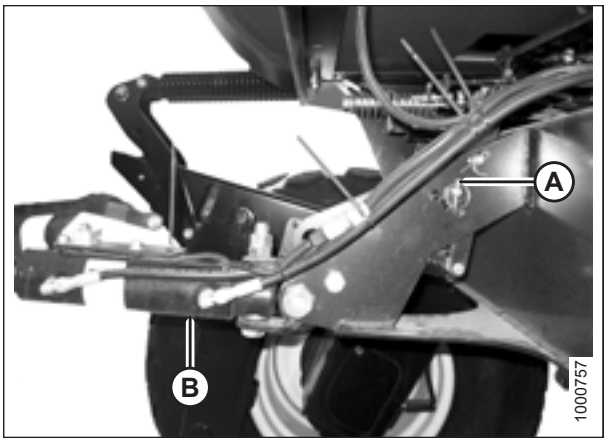


Figure 6.21: Hydraulic Center-Link without Self-Alignment Kit

5. Drive the windrower slowly forward until boots (A) enter header legs (B). Continue driving slowly forward until the lift linkages contact the support plates in the header legs and the header nudges forward.
6. Ensure the lift linkages are properly engaged in the header legs and are contacting the support plates.

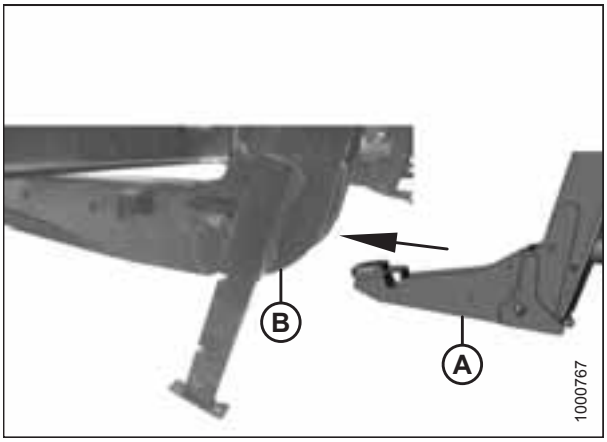


Figure 6.22: Header Leg and Boot

7. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - HEADER TILT UP (A) to retract the center-link
   - HEADER TILT DOWN (B) to extend the center-link
8. Shut down the engine, and remove the key from the ignition.

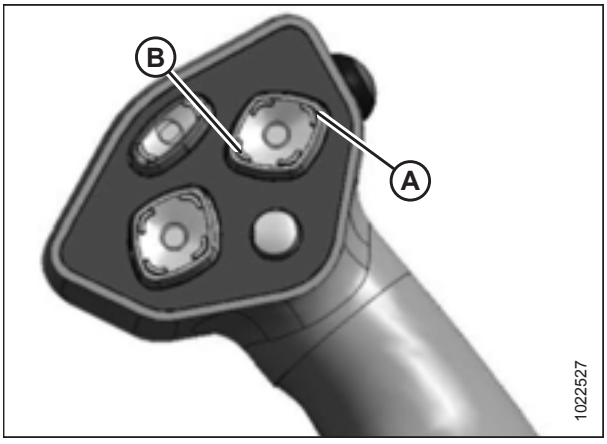


Figure 6.23: Ground Speed Lever

9. Push down on rod end of link cylinder (A) until hook (B) engages and locks onto header pin.

   IMPORTANT:

   The hook release must be down to enable the self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

10. Check that center-link (A) is locked onto the header by pulling upward on rod end (B) of cylinder.

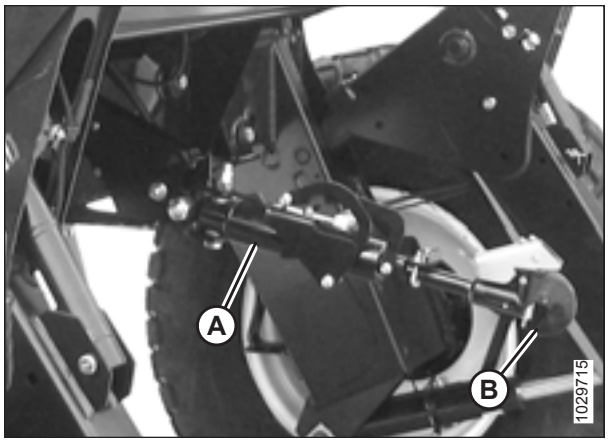


Figure 6.24: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

11. Start the engine.
12. Press HEADER UP switch (A) to raise the header to maximum height.
13. If one end of the header does **NOT** fully raise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

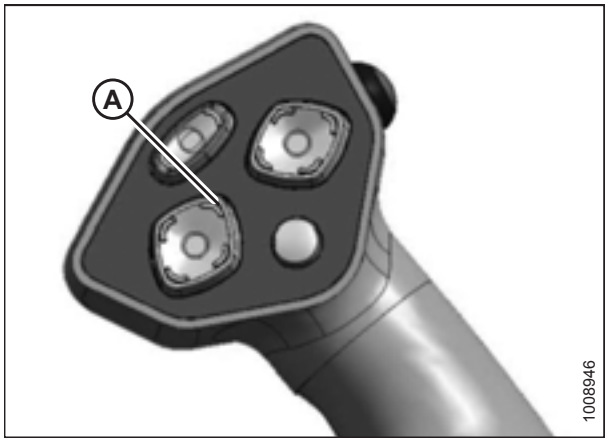


Figure 6.25: Ground Speed Lever

NOTE:

It may be necessary to repeat this procedure if there is air in the system.

14. Engage the safety props on both lift cylinders as follows:
    a. Shut down the engine, and remove the key from the ignition.
    b. Pull lever (A) and rotate it towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

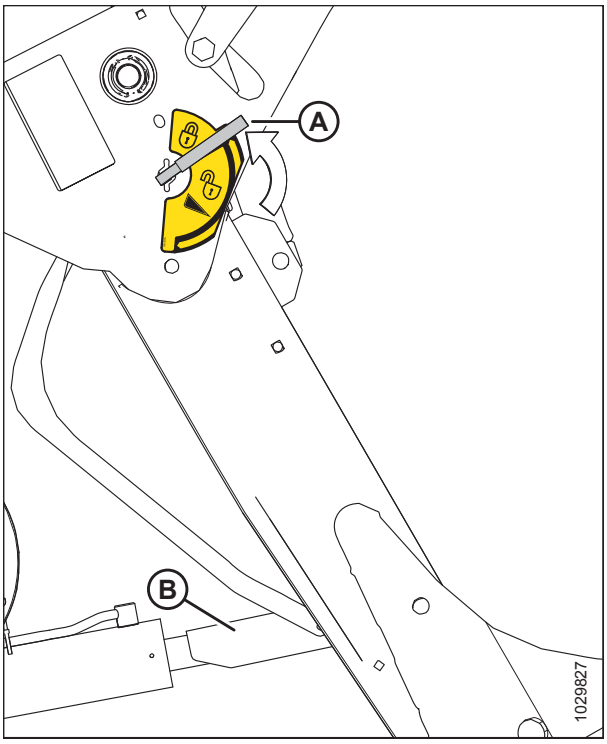


Figure 6.26: Safety Prop

15. Install pin (B) through the header leg (engaging U-bracket in lift linkage) on both sides and secure with hairpin (A).
16. Raise header stand (D) to storage position by pulling spring pin (C) and lifting stand into uppermost position. Release spring pin.

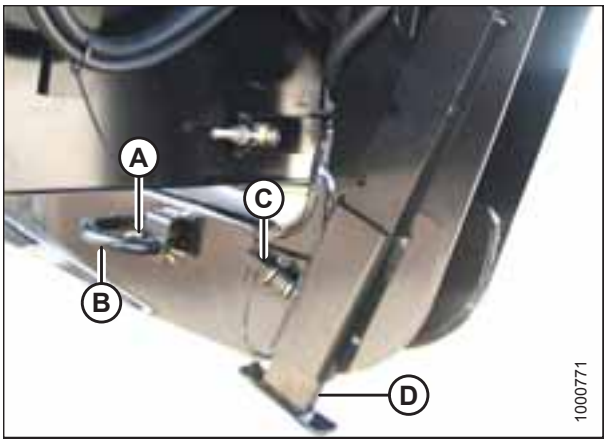


Figure 6.27: Header Leg

17. Remove the clevis pin from storage position (B) in linkage and insert into hole (A) to engage the float springs. Secure with hairpin.

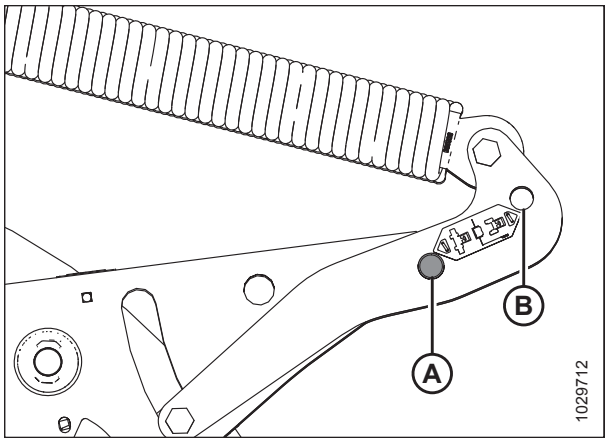


Figure 6.28: Header Float Linkage

18. Disengage the safety prop by turning lever (A) downwards until lever locks into vertical position.
19. Repeat for opposite safety prop.

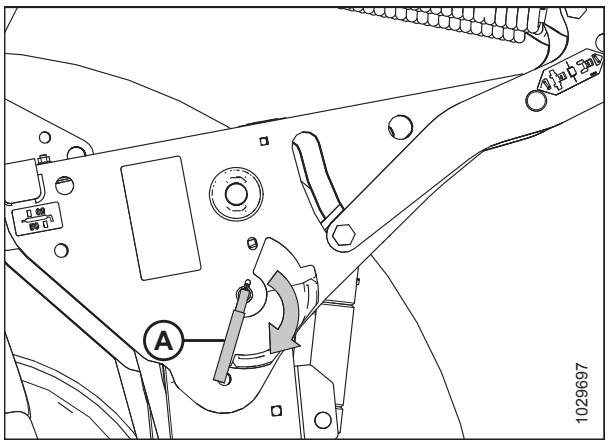


Figure 6.29: Safety Prop Lever

CAUTION

Check to be sure all bystanders have cleared the area.

20. Start the engine and press HEADER DOWN switch (A) on the GSL to fully lower the header.
21. Shut down the engine, and remove the key from the ignition.

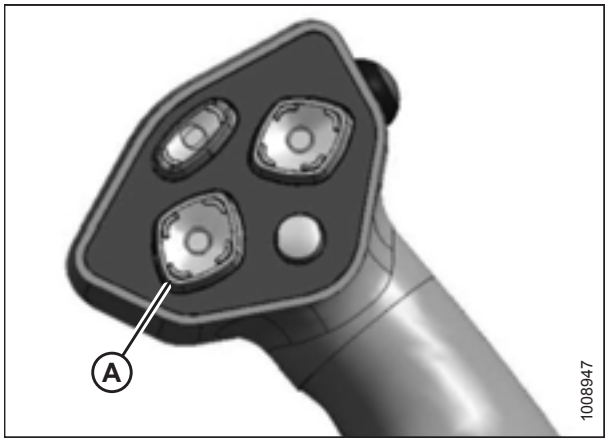


Figure 6.30: Ground Speed Lever

22. Connect header drive hoses (A) and electrical harness (B) to header. For instructions, refer to the header operator's manual.

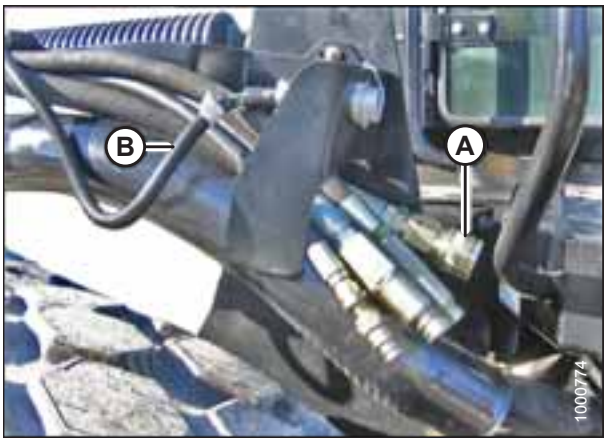


Figure 6.31: Header Drive Hoses and Harness

23. Connect reel hydraulics (A) at right cab-forward side of windrower. For instructions, refer to the draper header operator's manual.
24. Start the engine, and raise and lower the header and the reel a few times to remove trapped air.

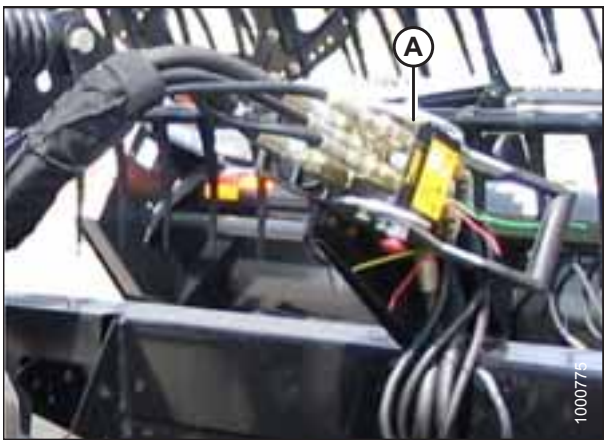


Figure 6.32: Reel Hydraulics

6.3 Attaching an A Series Auger Header

A30D, A30S, and A40D Auger Headers can be attached to an M155*E4* Self-Propelled Windrower.

The M155*E4* Self-Propelled Windrower is factory-equipped to run an A Series Auger Header.

Windrowers equipped with A Series hydraulics have four header-drive hoses on the left side.

The attachment procedure varies depending on the type of center-link installed on the windrower. Refer to the following instructions based on the type of center-link installed on your windrower:

- *6.3.1 Attaching an A Series Auger Header – Hydraulic Center-Link with Optional Self-Alignment, page 196*
- *6.3.2 Attaching an A Series Auger Header – Hydraulic Center-Link without Self-Alignment, page 202*

Figure 6.33: M155*E4* and A40D Auger Header

6.3.1 Attaching an A Series Auger Header – Hydraulic Center-Link with Optional Self-Alignment

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.
2. Remove hairpin (A) from clevis pin (B) and remove clevis pin from header boots (C) on both sides of the header.

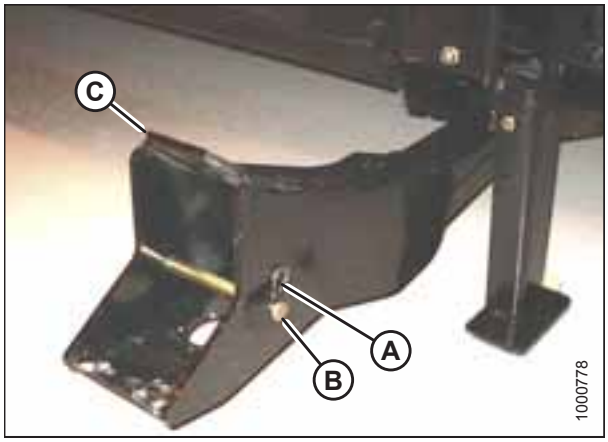


Figure 6.34: Header Boot

IMPORTANT:

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and **NOT** in engaged position (A).

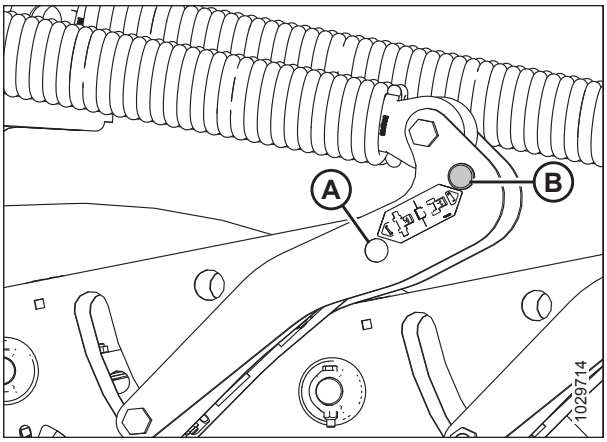


Figure 6.35: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine for the first time the windrower is operated in a season, remove the protective cover from the exhaust stack.

3. Start the engine and activate HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

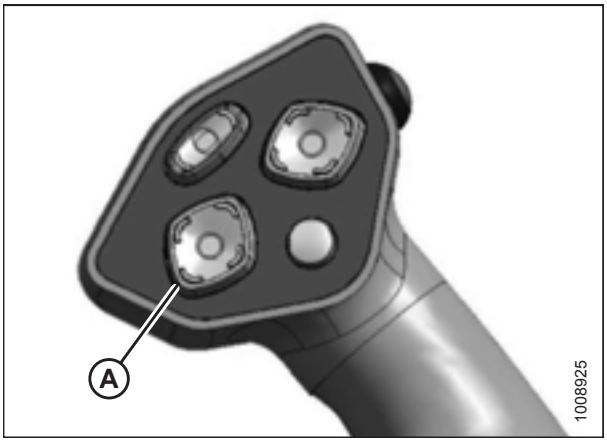


Figure 6.36: Ground Speed Lever

4. Press REEL UP switch (A) on the GSL to raise the center-link until the hook is above the attachment pin on the header.

IMPORTANT:

If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

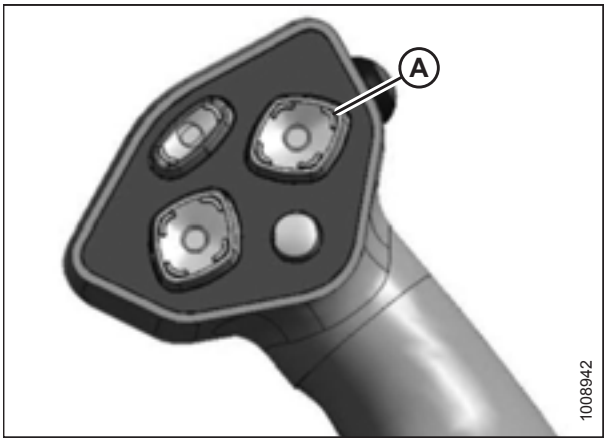


Figure 6.37: Ground Speed Lever

5. Drive the windrower slowly forward until windrower feet (A) enter header supports (B). Continue driving slowly forward until the feet engage the supports and the header nudges forward.

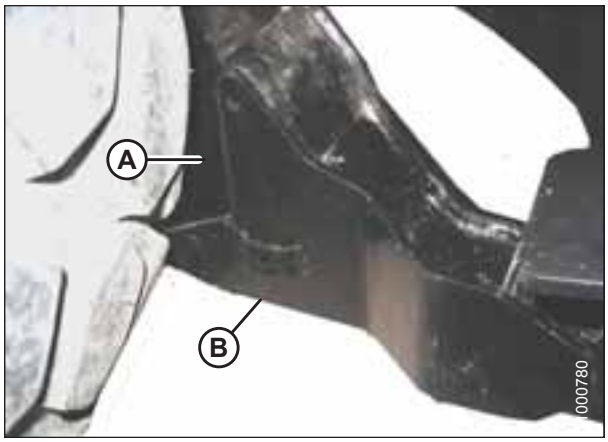


Figure 6.38: Header Support

6. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - REEL UP (A) to raise the center-link
   - REEL DOWN (B) to lower the center-link
   - HEADER TILT UP (C) to retract the center-link
   - HEADER TILT DOWN (D) to extend the center-link

IMPORTANT:

Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

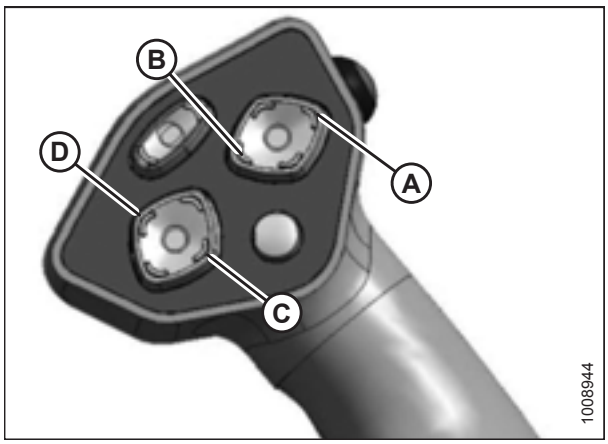


Figure 6.39: Ground Speed Lever

7. Adjust center-link cylinder (A) position with the REEL UP and REEL DOWN switches on the GSL until the hook is positioned above the header attachment pin.

   IMPORTANT:

   Hook release (B) must be down to enable the self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

8. Lower center-link (A) onto the header with the REEL DOWN switch until the center-link locks into position and hook release (B) is down.
9. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.

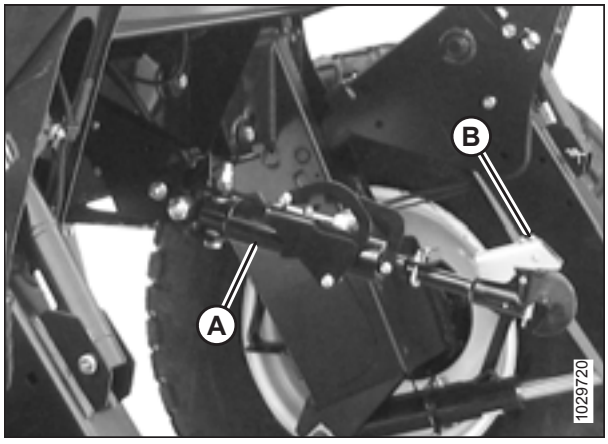


Figure 6.40: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

10. Press HEADER UP switch (A) to raise the header to maximum height.
11. If one end of the header does **NOT** fully raise, rephase the lift cylinders as follows:
    a. Press and hold the HEADER UP switch until both cylinders stop moving.
    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:

    It may be necessary to repeat this procedure if there is air in the system.

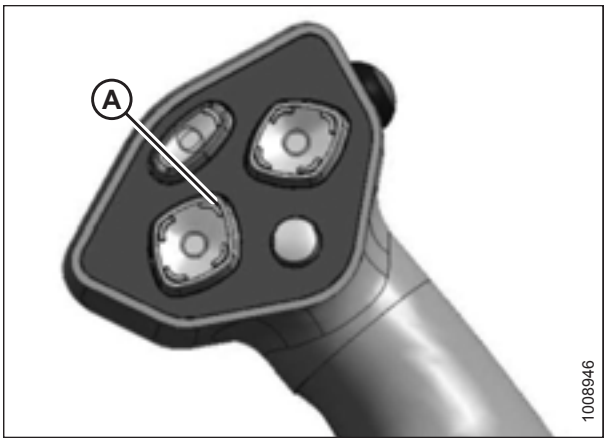


Figure 6.41: Ground Speed Lever

12. Engage the safety props on both lift cylinders as follows:
    a. Shut down the engine, and remove the key from the ignition.
    b. Pull lever (A) and rotate it towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

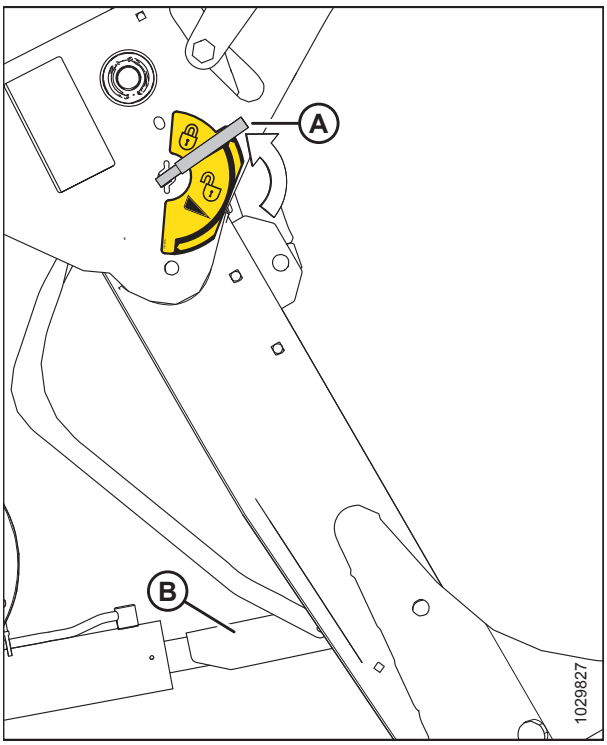


Figure 6.42: Safety Prop

13. Install clevis pin (A) through support and foot, and secure with hairpin. Repeat for opposite support.

    IMPORTANT:

    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

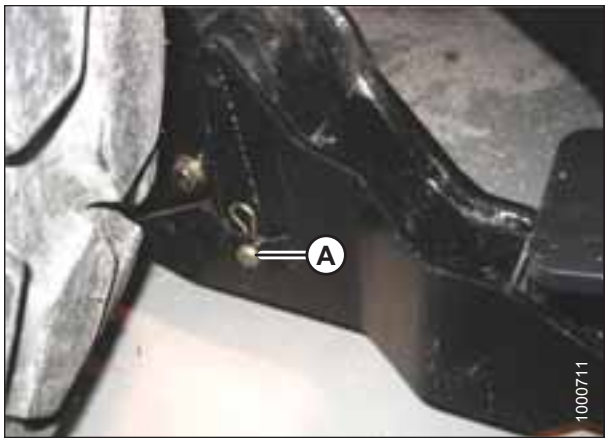


Figure 6.43: Header Support

14. Remove lynch pin from clevis pin (A) in stand (B).
15. Hold stand (B) and remove pin (A).
16. Move stand (B) to storage position by inverting and relocating onto bracket as shown. Reinsert clevis pin (A) and secure with lynch pin.

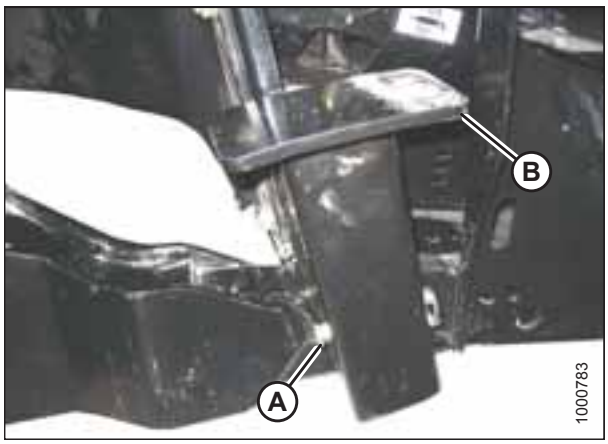


Figure 6.44: Header Stand

17. Remove the clevis pin from storage position (B) in linkage and insert into hole (A) to engage the float springs. Secure with hairpin.

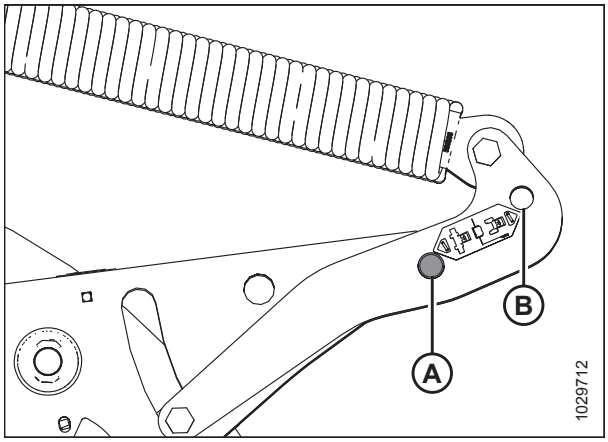


Figure 6.45: Header Float Linkage

18. Disengage the safety prop by turning lever (A) downwards until lever locks into vertical position.
19. Repeat for opposite safety prop.

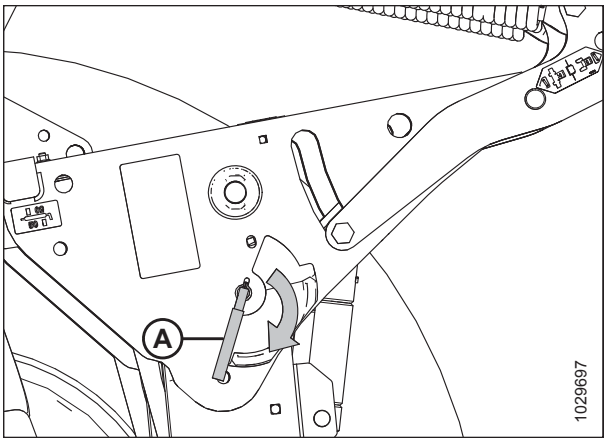


Figure 6.46: Safety Prop Lever

CAUTION

Check to be sure all bystanders have cleared the area.

20. Start the engine and press HEADER DOWN switch (A) on the GSL to fully lower the header.
21. Stop the engine and remove key from ignition.

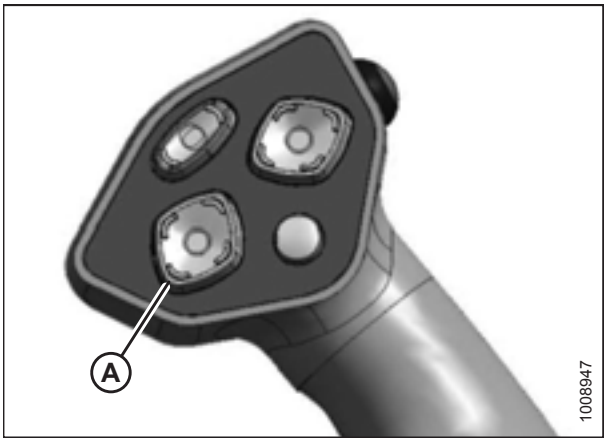


Figure 6.47: Ground Speed Lever

22. Connect header drive hoses (A) and electrical harness (B) to header. For instructions, refer to the header operator's manual.

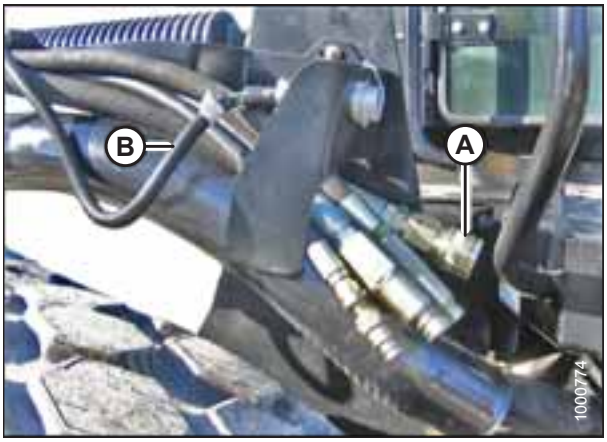


Figure 6.48: Header Drive Hoses and Harness

6.3.2 Attaching an A Series Auger Header – Hydraulic Center-Link without Self-Alignment

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.
2. Remove hairpin (A) from clevis pin (B) and remove clevis pin from header boots (C) on both sides of the header.

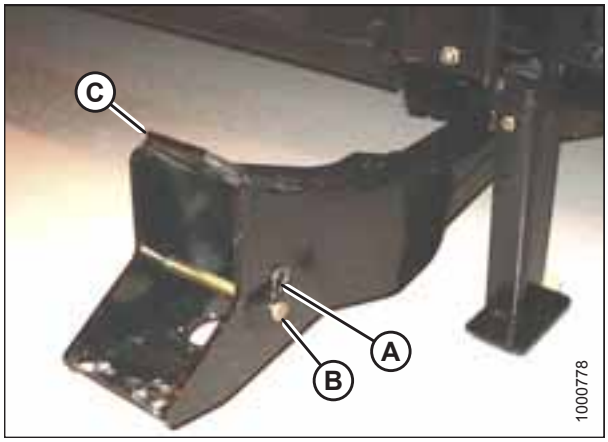


Figure 6.49: Header Boot

IMPORTANT:

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and **NOT** in engaged position (A).

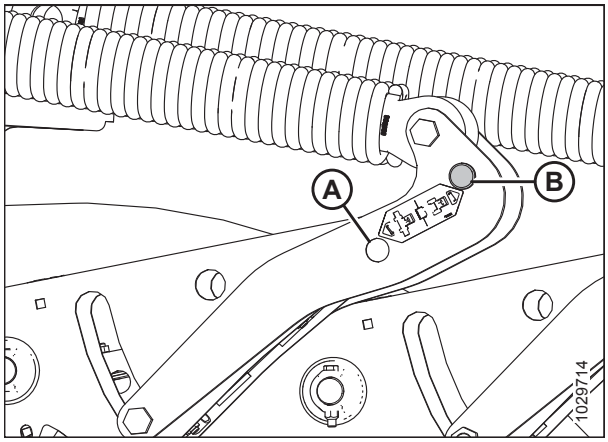


Figure 6.50: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine for the first time the windrower is operated in a season, remove the protective cover from the exhaust stack.

3. Start the engine and activate HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

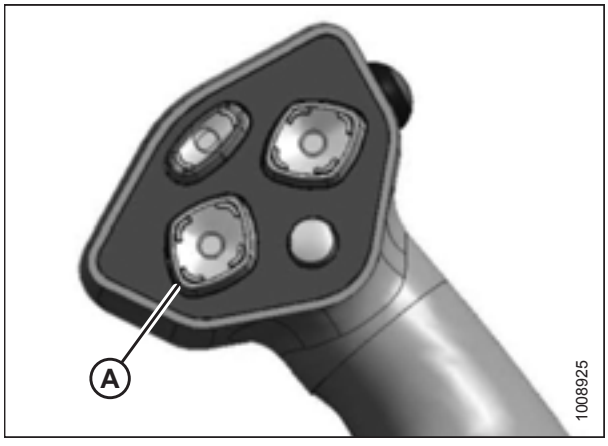


Figure 6.51: Ground Speed Lever

4. Remove pin (A) from frame linkage and raise center-link (B) until hook is above the attachment pin on header. Replace pin (A) to hold center-link in place.

   IMPORTANT:

   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

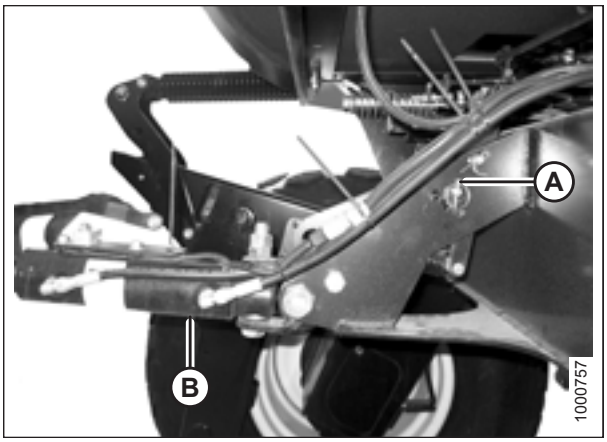


Figure 6.52: Hydraulic Center-Link without Self-Alignment Kit

5. Drive the windrower slowly forward until windrower feet (A) enter header supports (B). Continue driving slowly forward until the feet engage the supports and the header nudges forward.

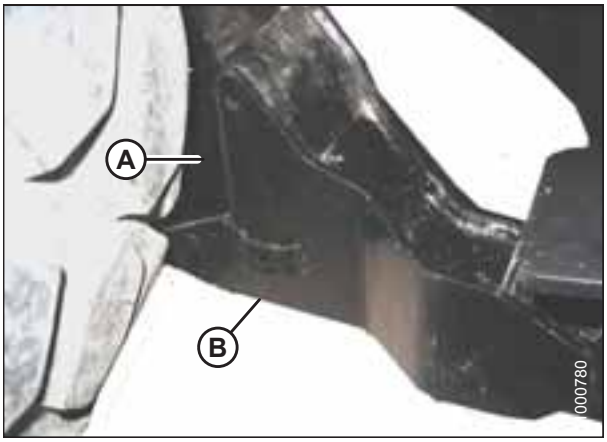


Figure 6.53: Header Support

6. Use the following ground speed lever functions to position the center-link hook above the header attachment pin:
   - HEADER TILT UP (A) to retract center-link
   - HEADER TILT DOWN (B) to extend center-link
7. Stop engine and remove key from ignition.

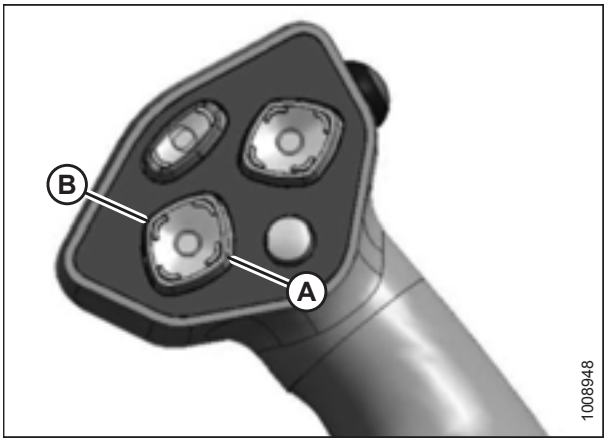


Figure 6.54: Ground Speed Lever

8. Push down on rod end of link cylinder (A) until hook (B) engages and locks onto header pin.

   IMPORTANT:

   The hook release must be down to enable the self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

9. Check that center-link (A) is locked onto the header by pulling upward on rod end (B) of cylinder.

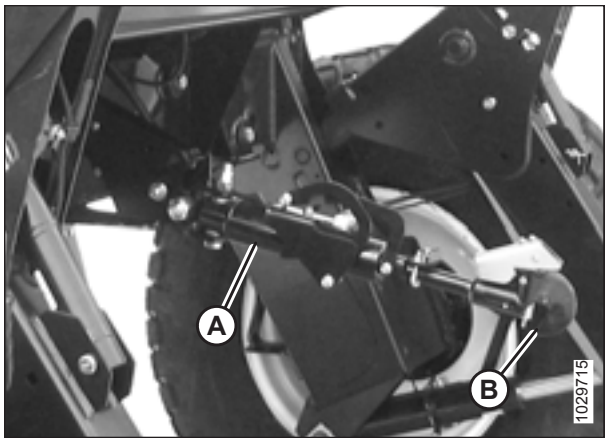


Figure 6.55: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

10. Start the engine.
11. Press HEADER UP switch (A) to raise header to maximum height.
12. If one end of the header does **NOT** fully raise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

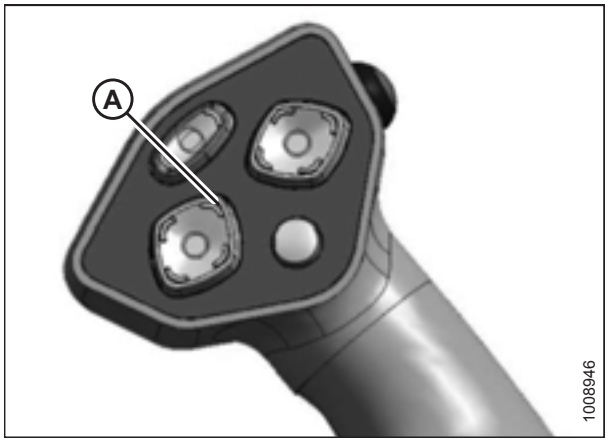


Figure 6.56: Ground Speed Lever

NOTE:

It may be necessary to repeat this procedure if there is air in the system.

13. Engage the safety props on both lift cylinders as follows:

    a. Shut down the engine, and remove the key from the ignition.

    b. Pull lever (A) and rotate it towards the header to release and lower safety prop (B) onto the lift cylinder.

    c. Repeat for opposite lift cylinder.

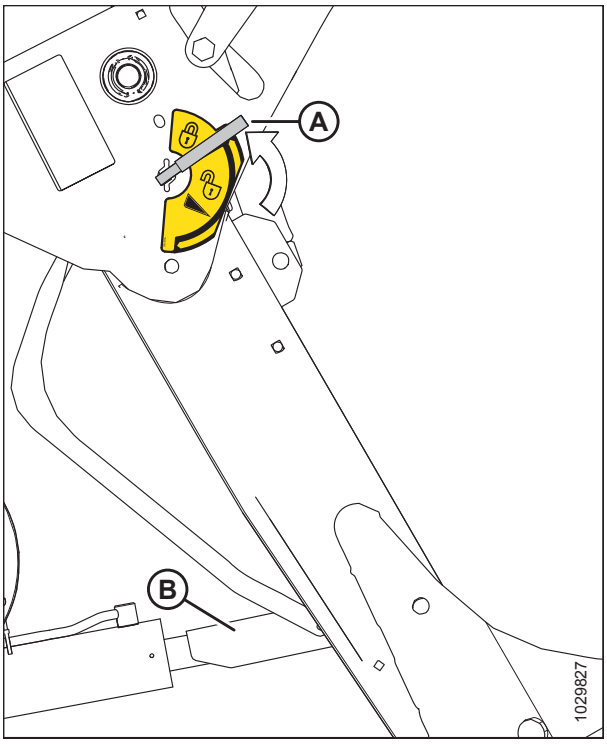


Figure 6.57: Safety Prop

14. Install clevis pin (A) through support and foot, and secure with hairpin. Repeat for opposite support.

    IMPORTANT:

    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

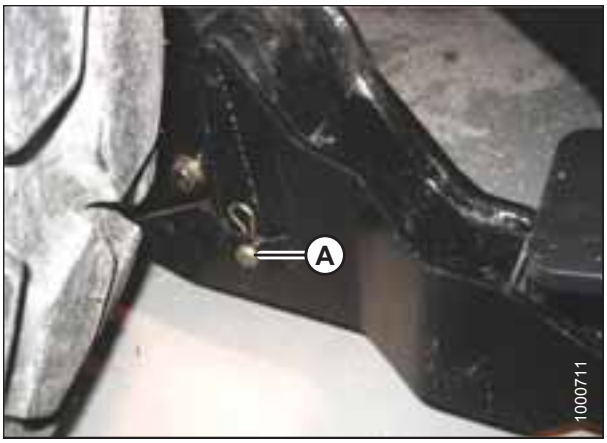


Figure 6.58: Header Support

15. Remove lynch pin from clevis pin (A) in stand (B).
16. Hold stand (B) and remove pin (A).
17. Move stand (B) to storage position by inverting and relocating onto bracket as shown. Reinsert clevis pin (A) and secure with lynch pin.

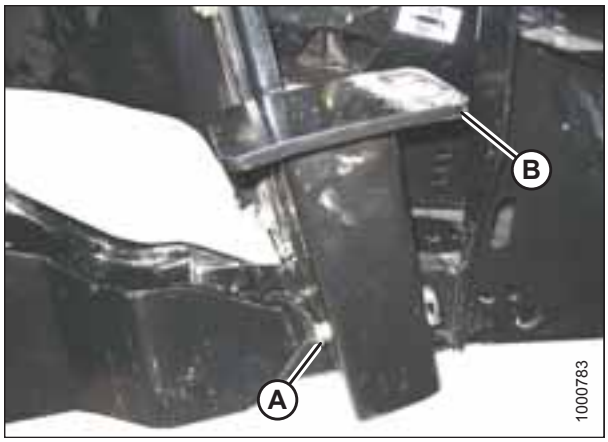


Figure 6.59: Header Stand

18. Remove the clevis pin from storage position (B) in linkage and insert into hole (A) to engage the float springs. Secure with hairpin.

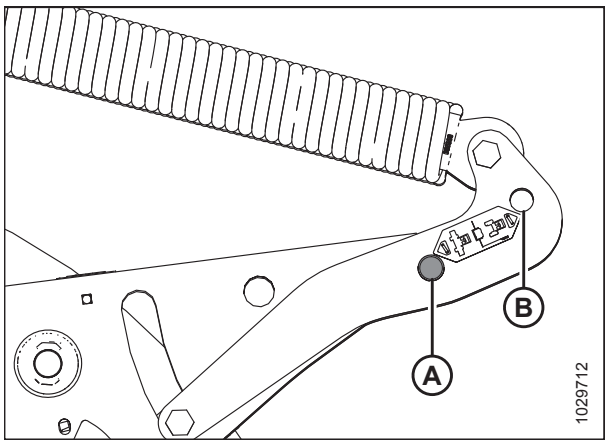


Figure 6.60: Header Float Linkage

19. Disengage the safety prop by turning lever (A) downwards until lever locks into vertical position.
20. Repeat for opposite safety prop.

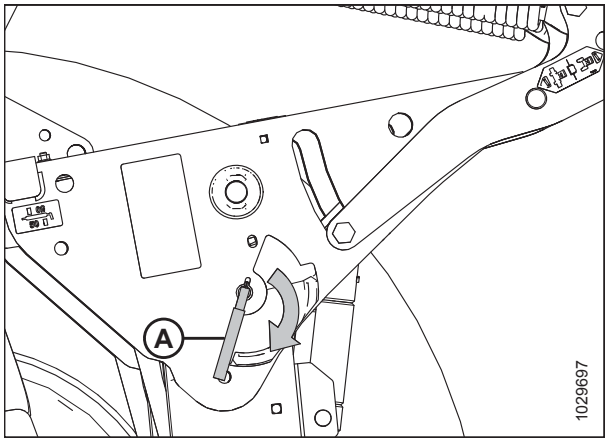


Figure 6.61: Safety Prop Lever

CAUTION

Check to be sure all bystanders have cleared the area.

21. Start the engine and press HEADER DOWN switch (A) on the GSL to fully lower the header.
22. Stop the engine and remove key from ignition.

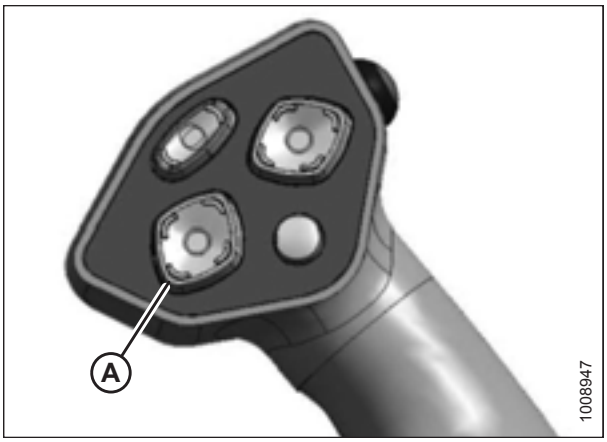


Figure 6.62: Ground Speed Lever

23. Connect header drive hoses (A) and electrical harness (B) to header. For instructions, refer to the header operator's manual.

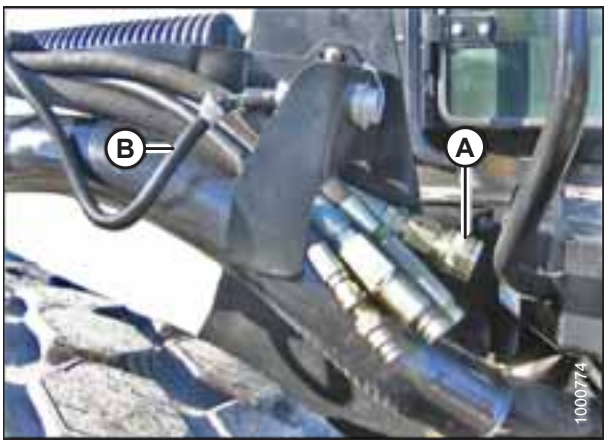


Figure 6.63: Header Drive Hoses and Harness

6.4 Attaching an R Series or R1 Series Rotary Disc Header

R and R1 Series Rotary Disc Headers can be attached to an M155*E4* Self-Propelled Windrower.

NOTE:

The 18.4 x 26 drive tire is recommended on the M155*E4* Self-Propelled Windrower when operated with a 4 m (13 ft.) R or R1 Series Rotary Disc Header. These drive tires are reversible and should be mounted inset at 3792 mm (149.3 in.) to provide maximum clearance to uncut crop. Mounting these tires outset or mounting all other drive tire options will result in windrower tires slightly wider than the header width. This may cause some uncut crop to be trampled by tires in turns and corners during windrower operation, and may leave some uncut strips of crop in the windrower's next pass.

The M155*E4* Self-Propelled Windrower can operate the following rotary disc headers:

- 4 m (13 ft.) R Series
- R1 Series

These headers are shipped without the motor or hoses installed, so a separate motor, hose bundle, and hydraulic valve kit is required to operate the header.

If necessary, obtain the following kits and install them in accordance with the instructions supplied with the kits.

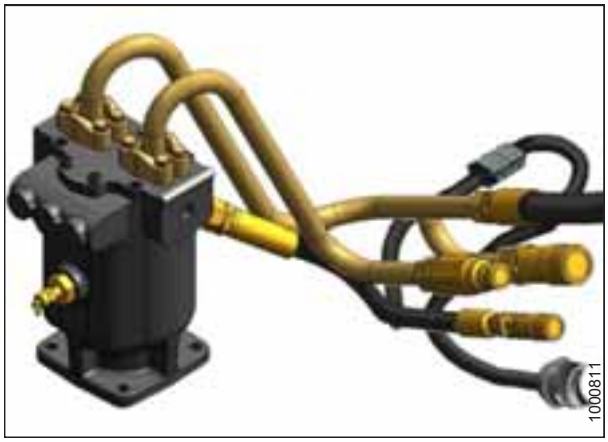


Figure 6.64: Hydraulic Drive Kit (MD #B5510)

Table 6.1 Rotary Disc Header Bundles – R Series

Kit Description	Kit Number
Hydraulic Drive kit	MD #B5510
Hydraulic Valve kit	MD #B4657

Table 6.2 Rotary Disc Header Bundles – R1 Series

Kit Description	Kit Number
Hydraulic Drive kit	MD #B6272

Refer to the following instructions based on the type of center-link installed on your windrower:

- *6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment, page 208*
- *6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment, page 215*

6.4.1 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link with Optional Self-Alignment

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.

2. Remove hairpin (B) from clevis pin (A) and remove clevis pin from header support (C) on both sides of the header.

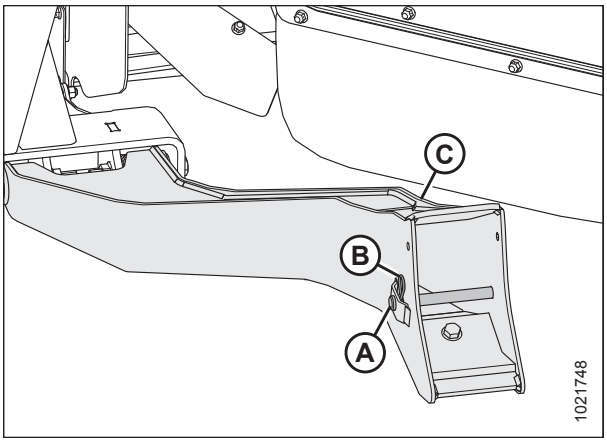


Figure 6.65: Header Support

IMPORTANT:

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage hole (B) and **NOT** in engaged position (A).

3. Remove the float engagement pin from hole (A) to disengage float springs, and insert float engagement pin into storage hole (B). Secure with lynch pin. Repeat for opposite linkage.

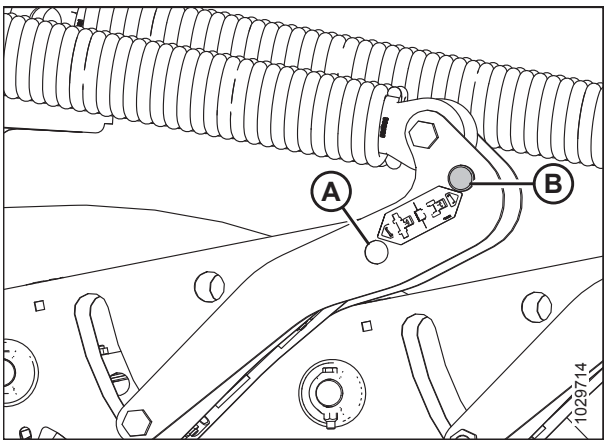


Figure 6.66: Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine for the first time the windrower is operated in a season, remove the protective cover from the exhaust stack.

4. Start the engine and activate HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

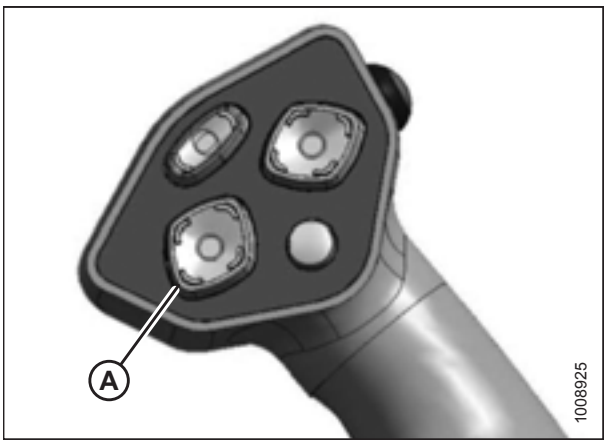


Figure 6.67: Ground Speed Lever

5. Press REEL UP switch (A) on the GSL to raise the center-link until the hook is above the attachment pin on the header.

   IMPORTANT:

   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

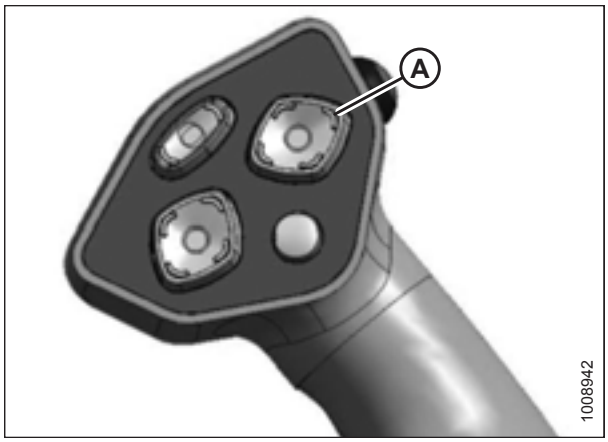


Figure 6.68: Ground Speed Lever

6. Slowly drive the windrower forward until the windrower feet (A) enter header supports (B). Continue driving slowly forward until the feet engage the supports and the header nudges forward.

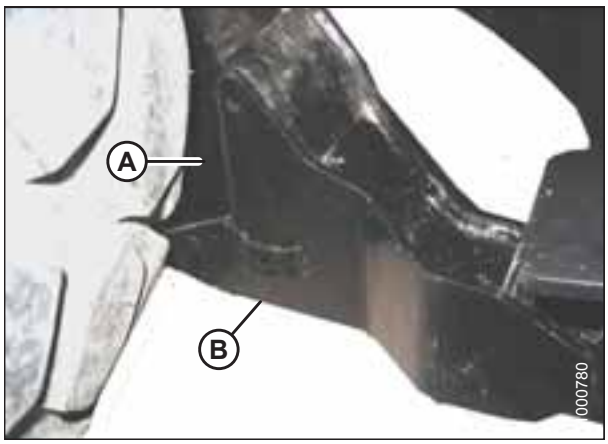


Figure 6.69: Header Support

7. Use the following GSL functions to position the center-link hook above the header attachment pin:

   - REEL UP (A) to raise the center-link
   - REEL DOWN (B) to lower the center-link
   - HEADER TILT UP (C) to retract the center-link
   - HEADER TILT DOWN (D) to extend the center-link

IMPORTANT:

Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

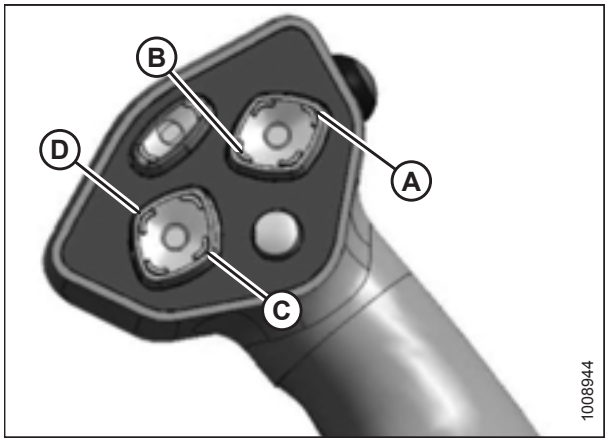


Figure 6.70: Ground Speed Lever

8. Adjust center-link cylinder (A) position with the REEL UP and REEL DOWN switches on the GSL until the hook is positioned above the header attachment pin.

   IMPORTANT:

   Hook release (B) must be down to enable the self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

9. Lower center-link (A) onto the header with the REEL DOWN switch until the center-link locks into position and hook release (B) is down.

10. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.

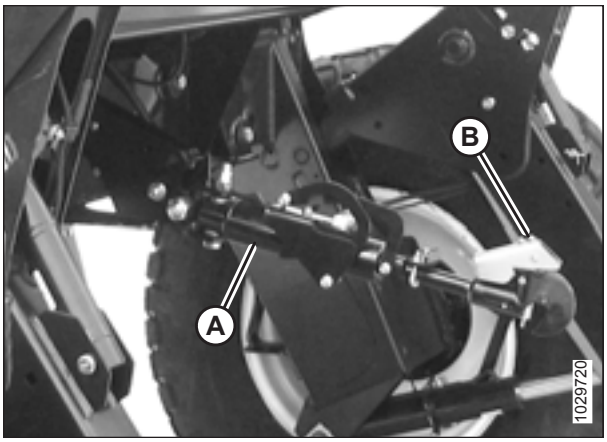


Figure 6.71: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

11. Press HEADER UP switch (A) to raise the header to maximum height.

12. If one end of the header does **NOT** fully raise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:

    It may be necessary to repeat this procedure if there is air in the system.

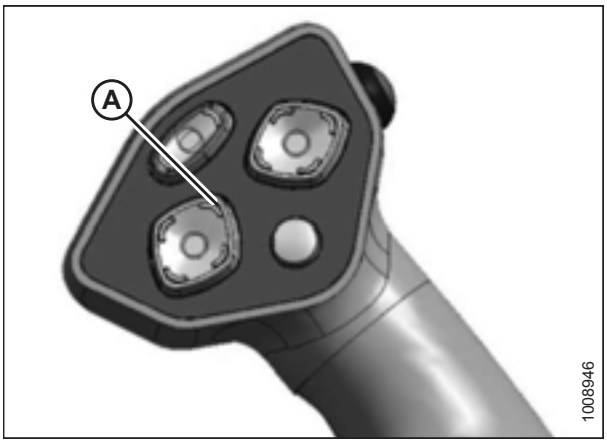


Figure 6.72: Ground Speed Lever

13. Engage the safety props on both lift cylinders as follows:

    a. Shut down the engine, and remove the key from the ignition.

    b. Pull lever (A) and rotate it towards the header to release and lower safety prop (B) onto the lift cylinder.

    c. Repeat for opposite lift cylinder.

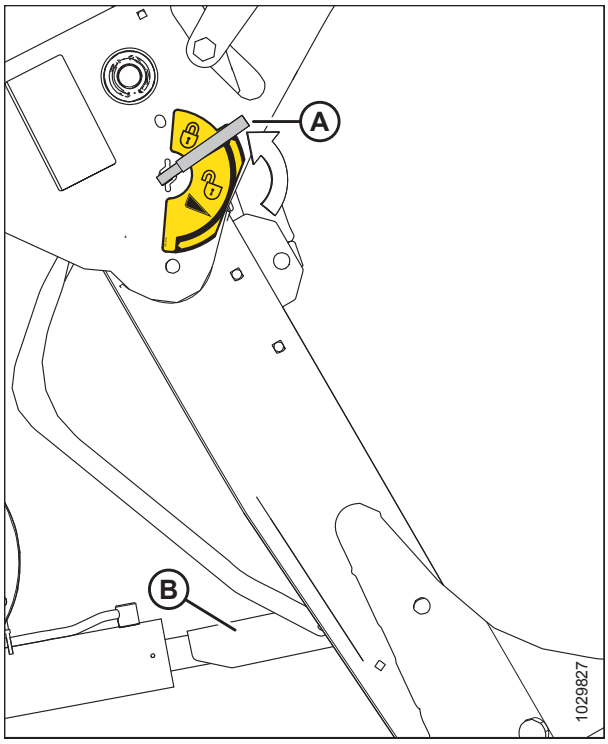


Figure 6.73: Safety Prop

14. Install clevis pin (A) through support and windrower lift member, and secure with hairpin (B). Repeat for the opposite side of the machine.

    IMPORTANT:

    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

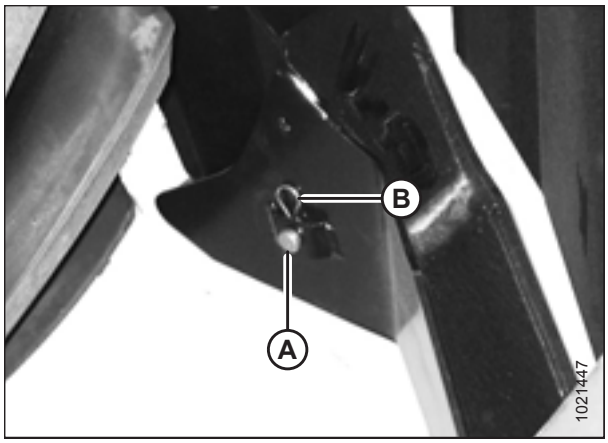


Figure 6.74: Header Support

15. Remove the clevis pin from storage position (B) in linkage and insert into hole (A) to engage the float springs. Secure with hairpin.

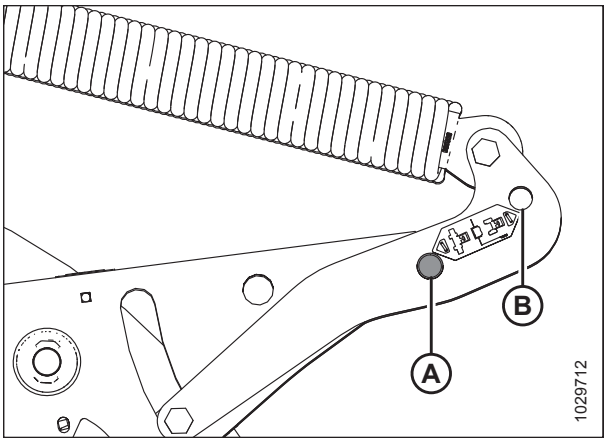


Figure 6.75: Header Float Linkage

16. Disengage the safety prop by turning lever (A) downwards until lever locks into vertical position.
17. Repeat for opposite safety prop.

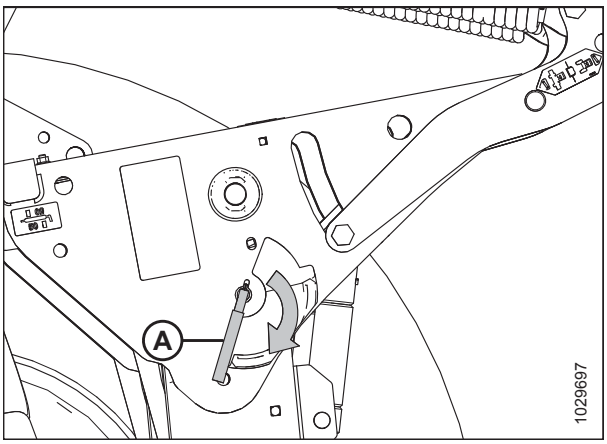


Figure 6.76: Safety Prop Lever

CAUTION

Check to be sure all bystanders have cleared the area.

18. Start the engine and press HEADER DOWN switch (A) on the GSL to fully lower the header.
19. Stop the engine and remove key from ignition.

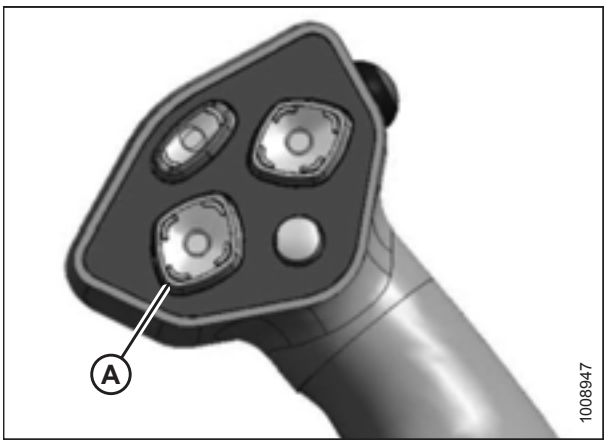


Figure 6.77: Ground Speed Lever

20. Connect header drive hoses (A) and electrical harness (B) to header. For instructions, refer to the header operator's manual.

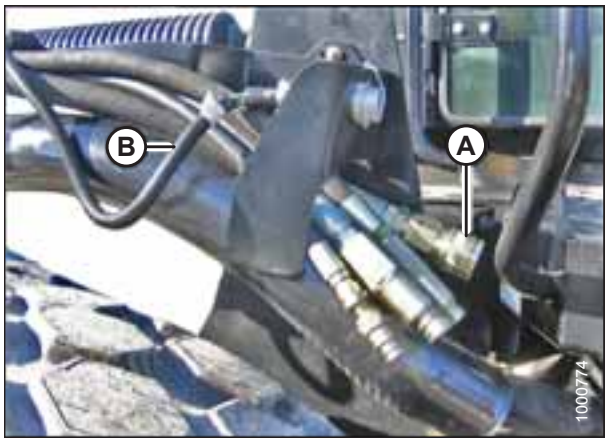


Figure 6.78: Header Drive Hoses and Harness

6.4.2 Attaching an R or R1 Series Rotary Disc Header – Hydraulic Center-Link without Optional Self-Alignment

WARNING

To avoid bodily injury or death from unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Shut down the engine, and remove the key from the ignition.
2. Remove hairpin (B) from clevis pin (A), and then remove clevis pin from header support (C) on both sides of the header.

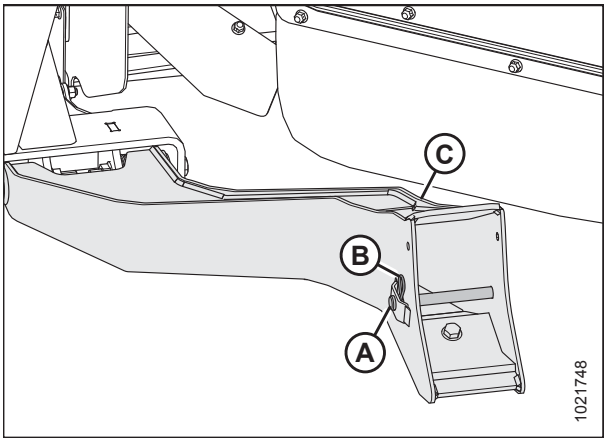


Figure 6.79: Header Support

IMPORTANT:

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and **NOT** in engaged position (A).

3. To disengage float springs, move the float engagement pin from engaged position (A) and insert pin into storage hole (B). Secure float engagement pin with lynch pin. Repeat for opposite linkage.

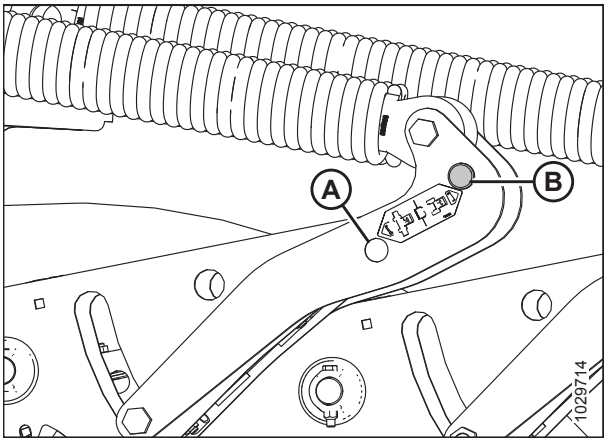


Figure 6.80: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine for the first time the windrower is operated in a season, remove the protective cover from the exhaust stack.

4. Start the engine and activate HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

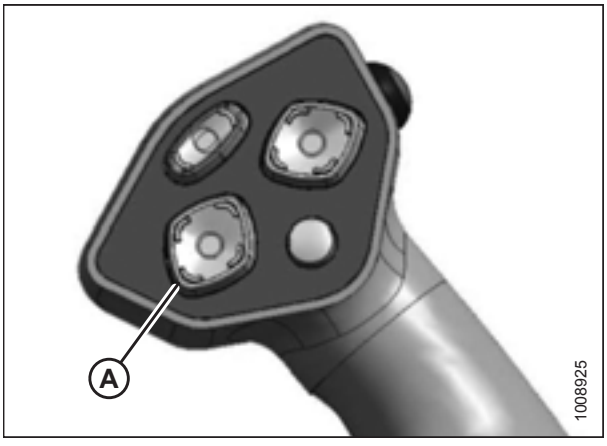


Figure 6.81: Ground Speed Lever

5. Remove pin (A) from frame linkage and raise center-link (B) until hook is above the attachment pin on header. Replace pin (A) to hold center-link in place.

   IMPORTANT:

   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

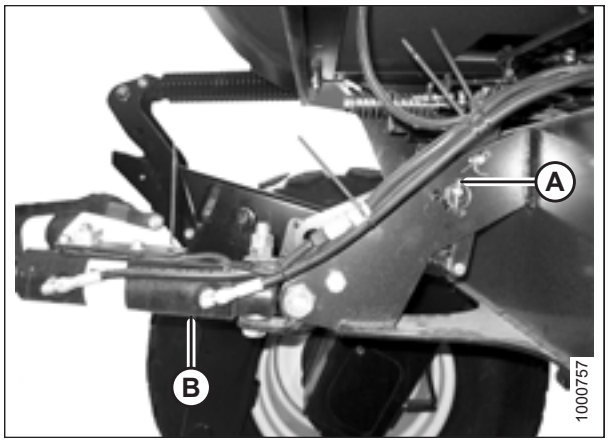


Figure 6.82: Hydraulic Center-Link without Self-Alignment Kit

6. Slowly drive the windrower forward until the windrower feet (A) enter header supports (B). Continue driving slowly forward until the feet engage the supports and the header nudges forward.

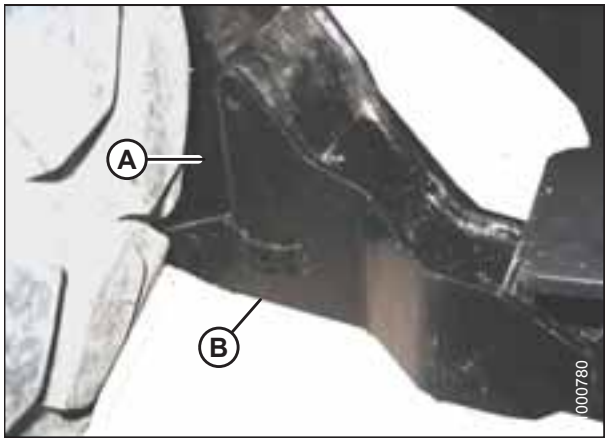


Figure 6.83: Header Support

7. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - HEADER TILT UP (A) to retract the center-link
   - HEADER TILT DOWN (B) to extend the center-link
8. Stop engine, and remove key from ignition.

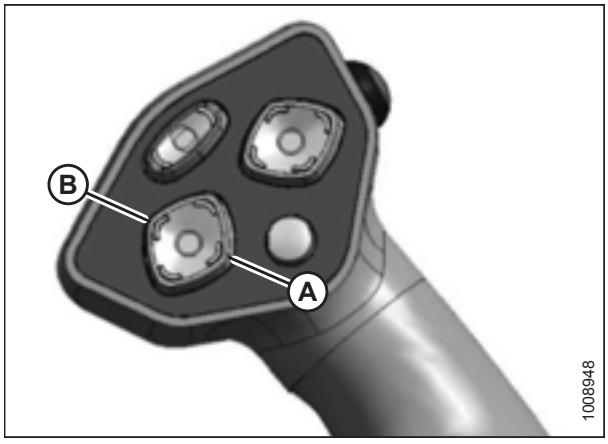


Figure 6.84: Ground Speed Lever

9. Push down on rod end of link cylinder (A) until hook (B) engages and locks onto header pin.

   IMPORTANT:

   The hook release must be down to enable the self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

10. Check that center-link (A) is locked onto the header by pulling upward on rod end (B) of cylinder.

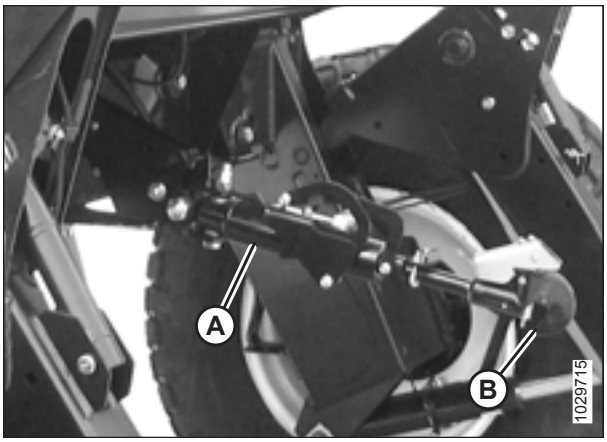


Figure 6.85: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

11. Start the engine.
12. Press HEADER UP switch (A) to raise the header to maximum height.
13. If one end of the header does **NOT** fully raise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

       NOTE:

       It may be necessary to repeat this procedure if there is air in the system.

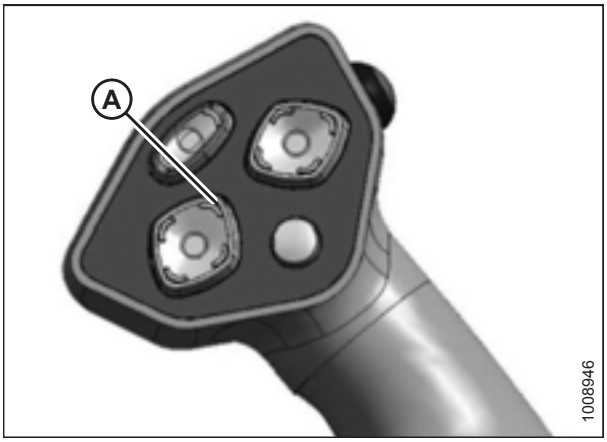


Figure 6.86: Ground Speed Lever

14. Engage the safety props on both lift cylinders as follows:

    a. Shut down the engine, and remove the key from the ignition.

    b. Pull lever (A) and rotate it towards the header to release and lower safety prop (B) onto the lift cylinder.

    c. Repeat for opposite lift cylinder.

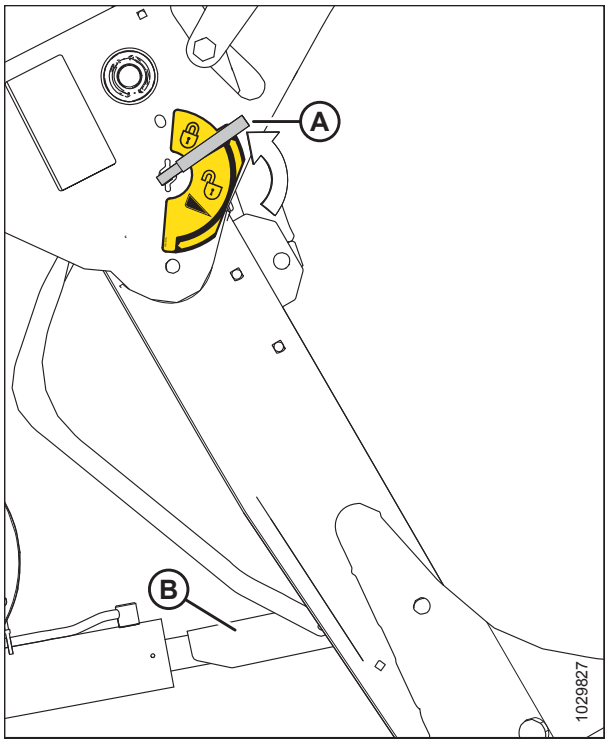


Figure 6.87: Safety Prop

15. Install clevis pin (A) through the support and windrower lift member, and secure with hairpin (B). Repeat for the opposite side of the machine.

    IMPORTANT:

    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

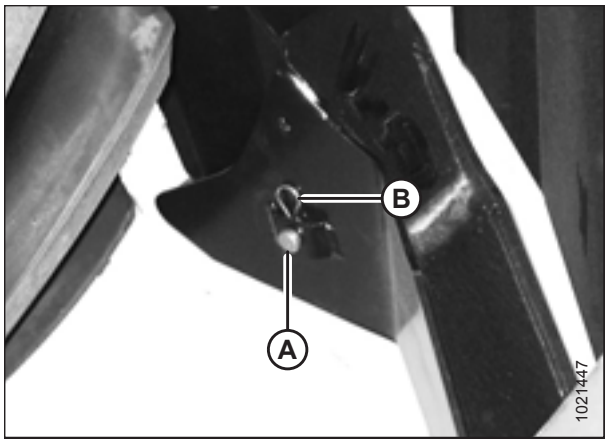


Figure 6.88: Header Support

16. Remove the clevis pin from storage position (B) in linkage and insert into hole (A) to engage the float springs. Secure with hairpin.

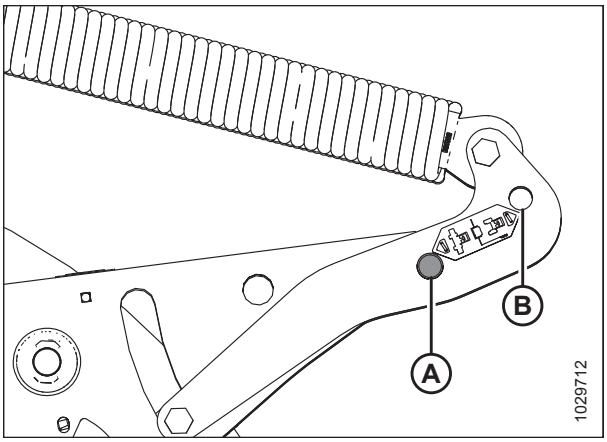


Figure 6.89: Header Float Linkage

17. Disengage the safety prop by turning lever (A) downwards until lever locks into vertical position.
18. Repeat for opposite safety prop.

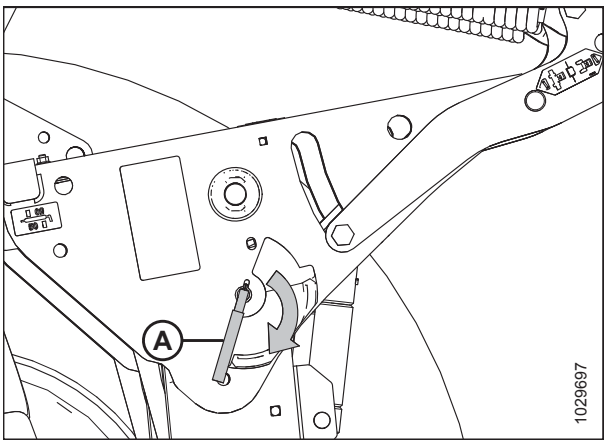


Figure 6.90: Safety Prop Lever

CAUTION

Check to be sure all bystanders have cleared the area.

19. Start the engine and press HEADER DOWN switch (A) on the GSL to fully lower the header.
20. Stop the engine and remove key from ignition.

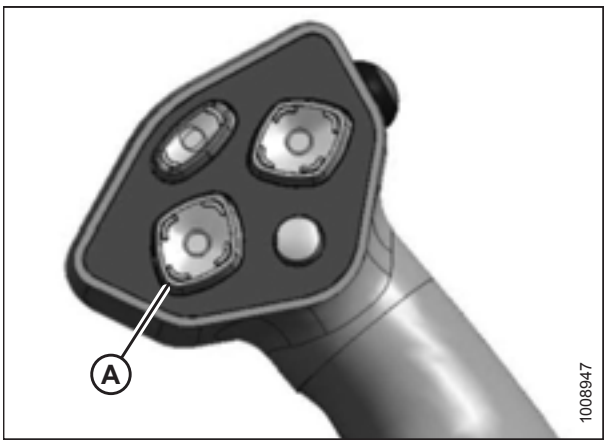


Figure 6.91: Ground Speed Lever

21. Connect header drive hoses (A) and electrical harness (B) to header. For instructions, refer to the header operator's manual.

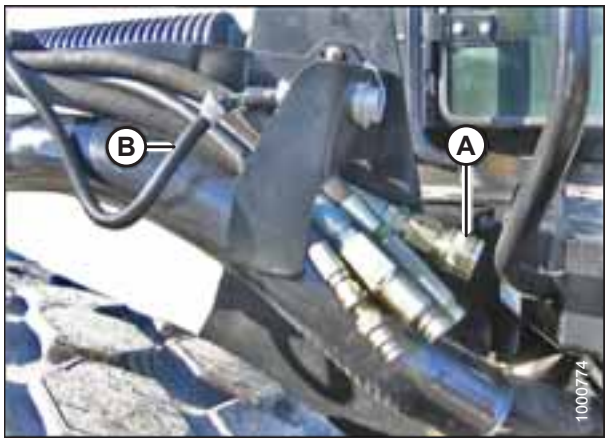


Figure 6.92: Header Drive Hoses and Harness

Chapter 7: Reference

7.1 Torque Specifications

The following tables provide correct torque values for various bolts, cap screws, and hydraulic fittings.

- Tighten all bolts to torque values specified in charts (unless otherwise noted throughout this manual).
- Replace hardware with same strength and grade of bolt.
- Use torque value tables as a guide and periodically check tightness of bolts.
- Understand torque categories for bolts and cap screws by using their identifying head markings.

Jam nuts

When applying torque to finished jam nuts, multiply the torque applied to regular nuts by f=0.65.

Self-tapping screws

Standard torque is to be used (**NOT** to be used on critical or structurally important joints).

7.1.1 SAE Bolt Torque Specifications

Torque values shown in following tables are valid for non-greased, or non-oiled threads and heads; therefore, do **NOT** grease or oil bolts or cap screws unless otherwise specified in this manual.

Table 7.1 SAE Grade 5 Bolt and Grade 5 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
1/4-20	11.9	13.2	*106	*117
5/16-18	24.6	27.1	*218	*241
3/8-16	44	48	32	36
7/16-14	70	77	52	57
1/2-13	106	118	79	87
9/16-12	153	170	114	126
5/8-11	212	234	157	173
3/4-10	380	420	281	311
7/8-9	606	669	449	496
1-8	825	912	611	676

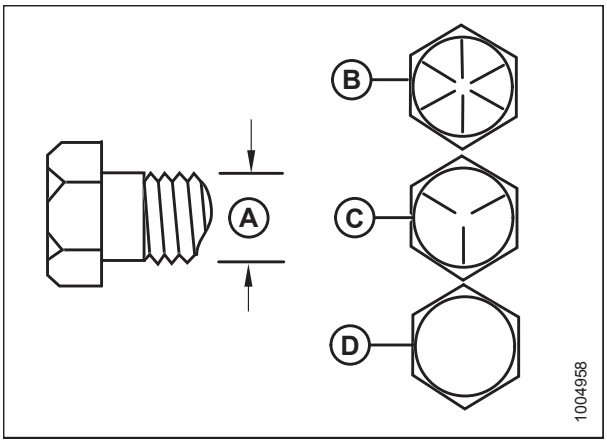


Figure 7.1: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

Table 7.2 SAE Grade 5 Bolt and Grade F Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
1/4-20	8.1	9	*72	*80
5/16-18	16.7	18.5	*149	*164
3/8-16	30	33	22	24
7/16-14	48	53	35	39
1/2-13	73	80	54	59
9/16-12	105	116	77	86
5/8-11	144	160	107	118
3/4-10	259	286	192	212
7/8-9	413	456	306	338
1-8	619	684	459	507

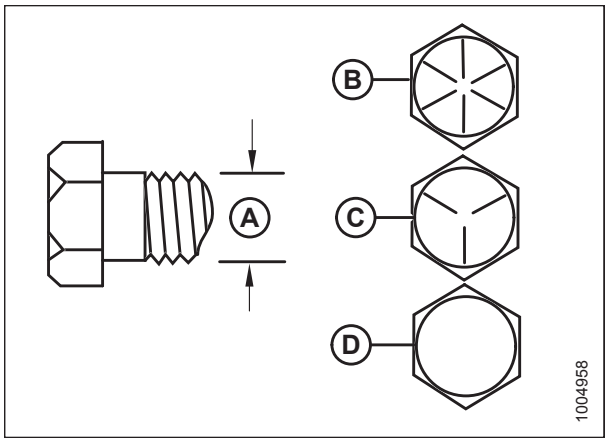


Figure 7.2: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

Table 7.3 SAE Grade 8 Bolt and Grade G Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
1/4-20	16.8	18.6	*150	*165
5/16-18	24	26	18	19
3/8-16	42	46	31	34
7/16-14	67	74	50	55
1/2-13	102	113	76	84
9/16-12	148	163	109	121
5/8-11	204	225	151	167
3/4-10	362	400	268	296
7/8-9	583	644	432	477
1-8	874	966	647	716

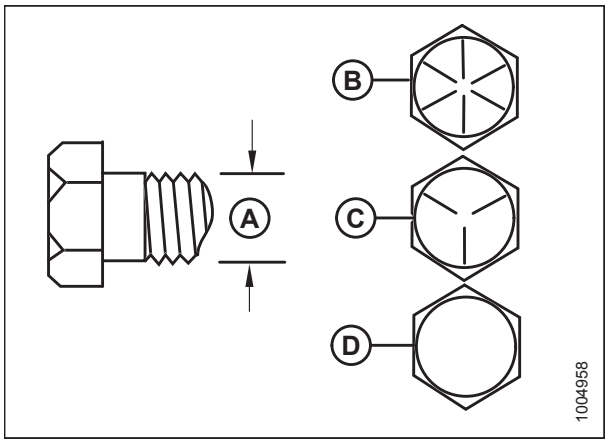


Figure 7.3: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

Table 7.4 SAE Grade 8 Bolt and Grade 8 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
1/4-20	16.8	18.6	*150	*165
5/16-18	35	38	26	28
3/8-16	61	68	46	50
7/16-14	98	109	73	81
1/2-13	150	166	111	123
9/16-12	217	239	160	177
5/8-11	299	330	221	345
3/4-10	531	587	393	435
7/8-9	855	945	633	700
1-8	1165	1288	863	954

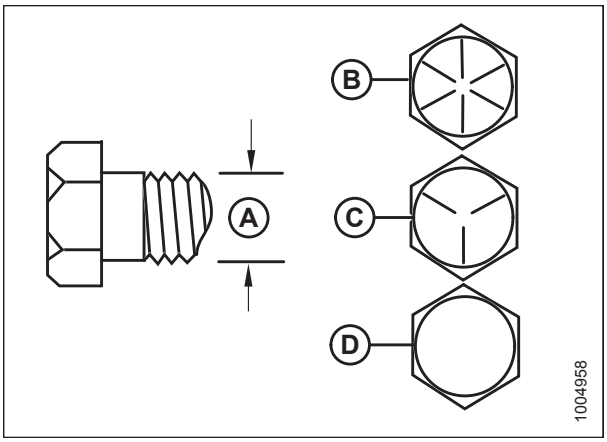


Figure 7.4: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

7.1.2 Metric Bolt Specifications

Table 7.5 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
3-0.5	1.4	1.6	*13	*14
3.5-0.6	2.2	2.5	*20	*22
4-0.7	3.3	3.7	*29	*32
5-0.8	6.7	7.4	*59	*66
6-1.0	11.4	12.6	*101	*112
8-1.25	28	30	20	23
10-1.5	55	60	40	45
12-1.75	95	105	70	78
14-2.0	152	168	113	124
16-2.0	236	261	175	193
20-2.5	460	509	341	377
24-3.0	796	879	589	651

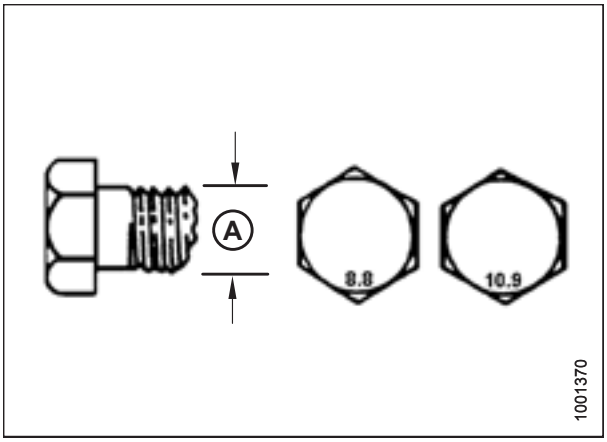


Figure 7.5: Bolt Grades

Table 7.6 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
3-0.5	1	1.1	*9	*10
3.5-0.6	1.5	1.7	*14	*15
4-0.7	2.3	2.5	*20	*22
5-0.8	4.5	5	*40	*45
6-1.0	7.7	8.6	*69	*76
8-1.25	18.8	20.8	*167	*185
10-1.5	37	41	28	30
12-1.75	65	72	48	53
14-2.0	104	115	77	85
16-2.0	161	178	119	132
20-2.5	314	347	233	257
24-3.0	543	600	402	444

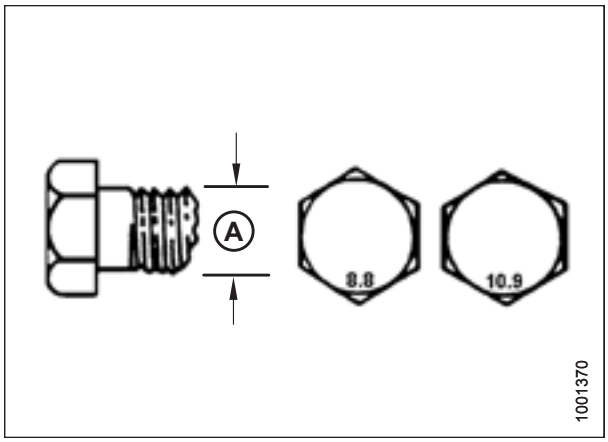


Figure 7.6: Bolt Grades

Table 7.7 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
3-0.5	1.8	2	*18	*19
3.5-0.6	2.8	3.1	*27	*30
4-0.7	4.2	4.6	*41	*45
5-0.8	8.4	9.3	*82	*91
6-1.0	14.3	15.8	*140	*154
8-1.25	38	42	28	31
10-1.5	75	83	56	62
12-1.75	132	145	97	108
14-2.0	210	232	156	172
16-2.0	326	360	242	267
20-2.5	637	704	472	521
24-3.0	1101	1217	815	901

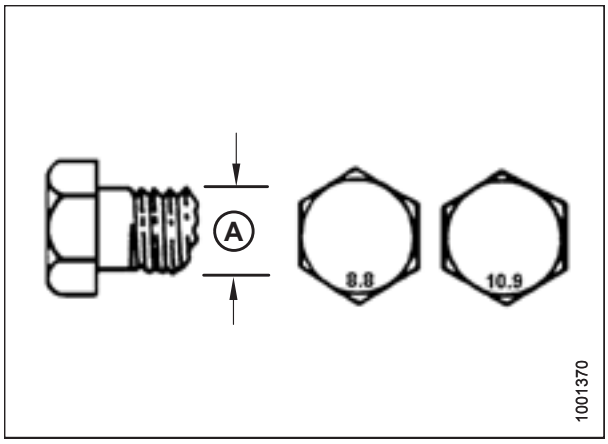


Figure 7.7: Bolt Grades

Table 7.8 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
3-0.5	1.3	1.5	*12	*13
3.5-0.6	2.1	2.3	*19	*21
4-0.7	3.1	3.4	*28	*31
5-0.8	6.3	7	*56	*62
6-1.0	10.7	11.8	*95	*105
8-1.25	26	29	19	21
10-1.5	51	57	38	42
12-1.75	90	99	66	73
14-2.0	143	158	106	117
16-2.0	222	246	165	182
20-2.5	434	480	322	356
24-3.0	750	829	556	614

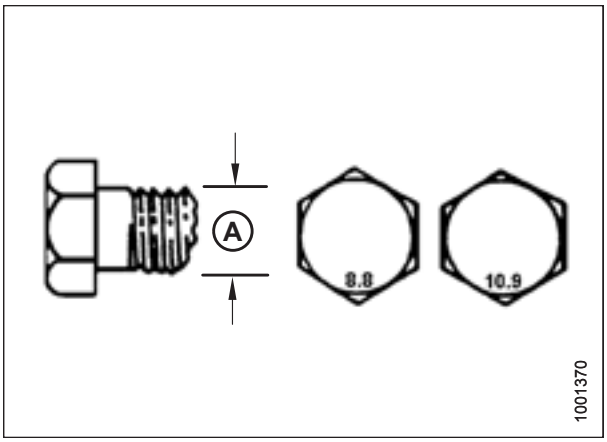


Figure 7.8: Bolt Grades

7.1.3 Metric Bolt Specifications Bolting into Cast Aluminum

Table 7.9 Metric Bolt Bolting into Cast Aluminum

Nominal Size (A)	Bolt Torque			
	8.8 (Cast Aluminum)		10.9 (Cast Aluminum)	
	Nm	lbf·ft	Nm	lbf·ft
M3	–	–	–	1
M4	–	–	4	2.6
M5	–	–	8	5.5
M6	9	6	12	9
M8	20	14	28	20
M10	40	28	55	40
M12	70	52	100	73
M14	–	–	–	–
M16	–	–	–	–

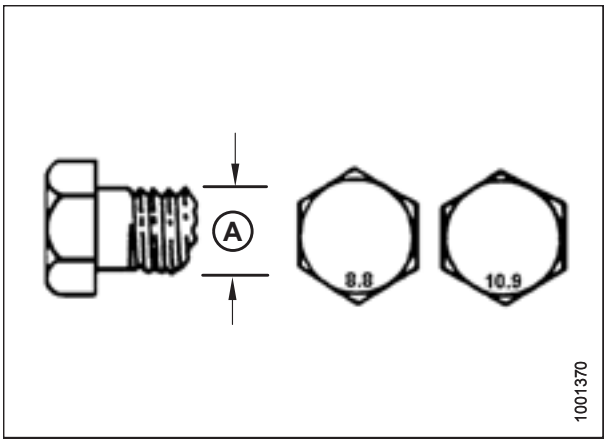


Figure 7.9: Bolt Grades

7.1.4 Flare-Type Hydraulic Fittings

1. Check flare (A) and flare seat (B) for defects that might cause leakage.
2. Align tube (C) with fitting (D) and thread nut (E) onto fitting without lubrication until contact has been made between flared surfaces.
3. Torque fitting nut (E) to specified number of flats from finger tight (FFFT) or to a given torque value in Table *7.10, page 226*.
4. Use two wrenches to prevent fitting (D) from rotating. Place one wrench on fitting body (D), and tighten nut (E) with other wrench to torque shown.
5. Assess final condition of connection.

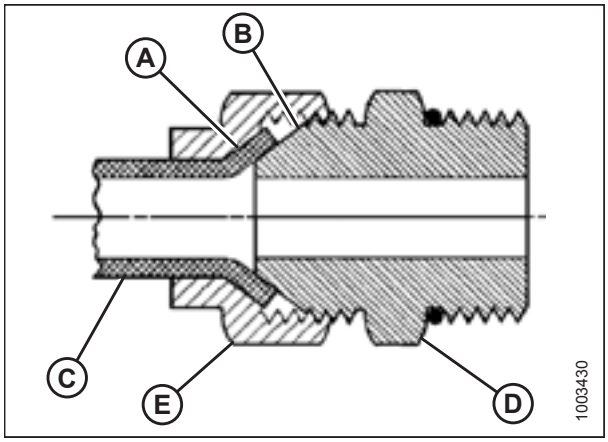


Figure 7.10: Hydraulic Fitting

Table 7.10 Flare-Type Hydraulic Tube Fittings

SAE Dash Size	Thread Size (in.)	Torque Value[10]		Flats from Finger Tight (FFFT)	
		Nm	lbf·ft	Tube	Swivel Nut or Hose
-2	5/16–24	4–5	3–4	—	—
-3	3/8–24	7–8	5–6	—	—
-4	7/16–20	18–19	13–14	2 1/2	2
-5	1/2–20	19–21	14–15	2	2
-6	9/16–18	30–33	22–24	2	1 1/2
-8	3/4–16	57–63	42–46	2	1 1/2
-10	7/8–14	81–89	60–66	1 1/2	1 1/2
-12	1 1/16–12	113–124	83–91	1 1/2	1 1/4
-14	1 3/16–12	136–149	100–110	1 1/2	1 1/4
-16	1 5/16–12	160–176	118–130	1 1/2	1
-20	1 5/8–12	228–250	168–184	1	1
-24	1 7/8–12	264–291	195–215	1	1
-32	2 1/2–12	359–395	265–291	1	1
-40	3–12	—	—	1	1

10. Torque values shown are based on lubricated connections as in reassembly.

7.1.5 O-Ring Boss Hydraulic Fittings – Adjustable

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Back off lock nut (C) as far as possible. Ensure that washer (D) is loose and is pushed toward lock nut (C) as far as possible.
3. Check that O-ring (A) is **NOT** on threads and adjust if necessary.
4. Apply hydraulic system oil to O-ring (A).

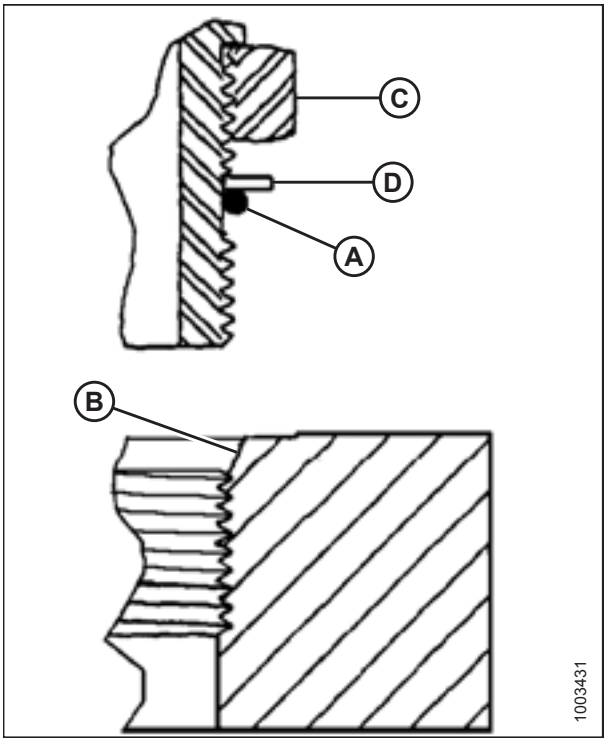


Figure 7.11: Hydraulic Fitting

5. Install fitting (B) into port until backup washer (D) and O-ring (A) contact part face (E).
6. Position angle fittings by unscrewing no more than one turn.
7. Turn lock nut (C) down to washer (D) and tighten to torque shown. Use two wrenches, one on fitting (B) and other on lock nut (C).
8. Check final condition of fitting.

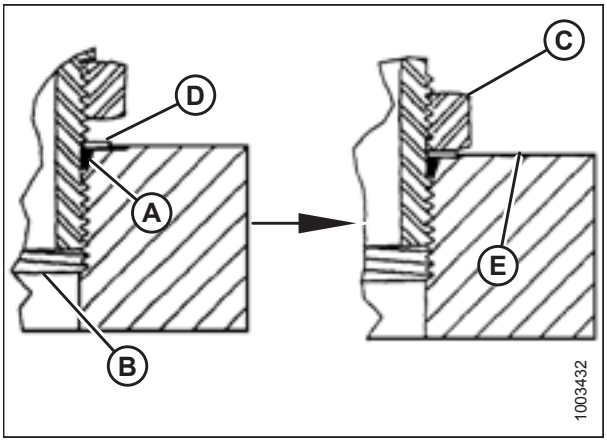


Figure 7.12: Hydraulic Fitting

Table 7.11 O-Ring Boss (ORB) Hydraulic Fittings – Adjustable

SAE Dash Size	Thread Size (in.)	Torque Value[11]	
		Nm	lbf·ft (*lbf·in)
-2	5/16–24	6–7	*53–62
-3	3/8–24	12–13	*106–115
-4	7/16–20	19–21	14–15
-5	1/2–20	21–33	15–24
-6	9/16–18	26–29	19–21
-8	3/4–16	46–50	34–37
-10	7/8–14	75–82	55–60
-12	1 1/16–12	120–132	88–97
-14	1 3/8–12	153–168	113–124
-16	1 5/16–12	176–193	130–142
-20	1 5/8–12	221–243	163–179
-24	1 7/8–12	270–298	199–220
-32	2 1/2–12	332–365	245–269

11. Torque values shown are based on lubricated connections as in reassembly.

7.1.6 O-Ring Boss Hydraulic Fittings – Non-Adjustable

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Check that O-ring (A) is **NOT** on threads and adjust if necessary.
3. Apply hydraulic system oil to O-ring.
4. Install fitting (C) into port until fitting is hand-tight.
5. Torque fitting (C) according to values in Table *7.12, page 229*.
6. Check final condition of fitting.

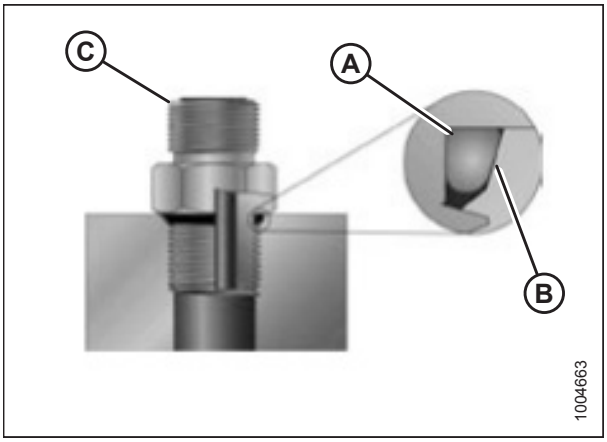


Figure 7.13: Hydraulic Fitting

Table 7.12 O-Ring Boss (ORB) Hydraulic Fittings – Non-Adjustable

SAE Dash Size	Thread Size (in.)	Torque Value[12]	
		Nm	lbf·ft (*lbf·in)
-2	5/16–24	6–7	*53–62
-3	3/8–24	12–13	*106–115
-4	7/16–20	19–21	14–15
-5	1/2–20	21–33	15–24
-6	9/16–18	26–29	19–21
-8	3/4–16	46–50	34–37
-10	7/8–14	75–82	55–60
-12	1 1/16–12	120–132	88–97
-14	1 3/8–12	153–168	113–124
-16	1 5/16–12	176–193	130–142
-20	1 5/8–12	221–243	163–179
-24	1 7/8–12	270–298	199–220
-32	2 1/2–12	332–365	245–269

12. Torque values shown are based on lubricated connections as in reassembly.

7.1.7 O-Ring Face Seal Hydraulic Fittings

1. Check components to ensure that sealing surfaces and fitting threads are free of burrs, nicks, scratches, or any foreign material.

Figure 7.14: Hydraulic Fitting

2. Apply hydraulic system oil to O-ring (B).
3. Align tube or hose assembly so that flat face of sleeve (A) or (C) comes in full contact with O-ring (B).
4. Thread tube or hose nut (D) until hand-tight. The nut should turn freely until it is bottomed out.
5. Torque fittings according to values in Table *7.13, page 230*.

   NOTE:

   If applicable, hold hex on fitting body (E) to prevent rotation of fitting body and hose when tightening fitting nut (D).
6. Use three wrenches when assembling unions or joining two hoses together.
7. Check final condition of fitting.

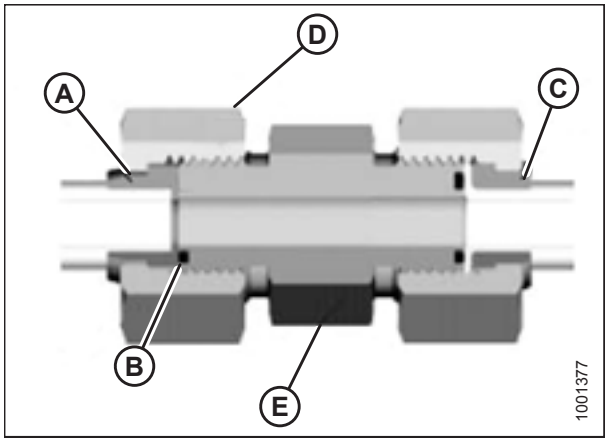


Figure 7.15: Hydraulic Fitting

Table 7.13 O-Ring Face Seal (ORFS) Hydraulic Fittings

SAE Dash Size	Thread Size (in.)	Tube O.D. (in.)	Torque Value[13]	
			Nm	lbf·ft
-3	Note[14]	3/16	–	–
-4	9/16	1/4	25–28	18–21
-5	Note[14]	5/16	–	–
-6	11/16	3/8	40–44	29–32
-8	13/16	1/2	55–61	41–45
-10	1	5/8	80–88	59–65
-12	1 3/16	3/4	115–127	85–94
-14	Note[14]	7/8	–	–

13. Torque values and angles shown are based on lubricated connection as in reassembly.
14. O-ring face seal type end not defined for this tube size.

Table 7.13 O-Ring Face Seal (ORFS) Hydraulic Fittings (continued)

SAE Dash Size	Thread Size (in.)	Tube O.D. (in.)	Torque Value[15]	
			Nm	lbf·ft
-16	1 7/16	1	150–165	111–122
-20	1 11/16	1 1/4	205–226	151–167
-24	1–2	1 1/2	315–347	232–256
-32	2 1/2	2	510–561	376–414

7.1.8 Tapered Pipe Thread Fittings

Assemble pipe fittings as follows:

1. Check components to ensure that fitting and port threads are free of burrs, nicks, scratches, or any form of contamination.
2. Apply pipe thread sealant (paste type) to external pipe threads.
3. Thread fitting into port until hand-tight.
4. Torque connector to appropriate torque angle. The turns from finger tight (TFFT) and flats from finger tight (FFFT) values are shown in Table *7.14, page 231*. Make sure that tube end of a shaped connector (typically 45° or 90°) is aligned to receive incoming tube or hose assembly. Always finish alignment of fitting in tightening direction. Never back off (loosen) pipe threaded connectors to achieve alignment.
5. Clean all residue and any excess thread conditioner with appropriate cleaner.
6. Assess final condition of fitting. Pay special attention to possibility of cracks to port opening.
7. Mark final position of fitting. If a fitting leaks, disassemble fitting and check for damage.

   NOTE:

   Overtorque failure of fittings may not be evident until fittings are disassembled.

Table 7.14 Hydraulic Fitting Pipe Thread

Tapered Pipe Thread Size	Recommended TFFT	Recommended FFFT
1/8–27	2–3	12–18
1/4–18	2–3	12–18
3/8–18	2–3	12–18
1/2–14	2–3	12–18
3/4–14	1.5–2.5	12–18
1–11 1/2	1.5–2.5	9–15
1 1/4–11 1/2	1.5–2.5	9–15
1 1/2–11 1/2	1.5–2.5	9–15
2–11 1/2	1.5–2.5	9–15

15. Torque values and angles shown are based on lubricated connection as in reassembly.

7.2 Conversion Chart

Table 7.15 Conversion Chart

Quantity	SI Units (Metric)		Factor	US Customary Units (Standard)	
	Unit Name	Abbreviation		Unit Name	Abbreviation
Area	hectare	ha	x 2.4710 =	acre	acres
Flow	liters per minute	L/min	x 0.2642 =	US gallons per minute	gpm
Force	Newton	N	x 0.2248 =	pound force	lbf
Length	millimeter	mm	x 0.0394 =	inch	in.
Length	meter	m	x 3.2808 =	foot	ft.
Power	kilowatt	kW	x 1.341 =	horsepower	hp
Pressure	kilopascal	kPa	x 0.145 =	pounds per square inch	psi
Pressure	megapascal	MPa	x 145.038 =	pounds per square inch	psi
Pressure	bar (Non-SI)	bar	x 14.5038 =	pounds per square inch	psi
Torque	Newton meter	Nm	x 0.7376 =	pound feet or foot pounds	lbf·ft
Torque	Newton meter	Nm	x 8.8507 =	pound inches or inch pounds	lbf·in
Temperature	degrees Celsius	°C	(°C x 1.8) + 32 =	degrees Fahrenheit	°F
Velocity	meters per minute	m/min	x 3.2808 =	feet per minute	ft/min
Velocity	meters per second	m/s	x 3.2808 =	feet per second	ft/s
Velocity	kilometers per hour	km/h	x 0.6214 =	miles per hour	mph
Volume	liter	L	x 0.2642 =	US gallon	US gal
Volume	milliliter	mL	x 0.0338 =	ounce	oz.
Volume	cubic centimeter	cm^3 or cc	x 0.061 =	cubic inch	$in.^3$
Weight	kilogram	kg	x 2.2046 =	pound	lb.

7.3 Definitions

The following terms and acronyms may be used in this instruction:

Term	Definition
A Series header	MacDon A30D, A30S, and A40D auger headers
API	American Petroleum Institute
ASTM	American Society of Testing and Materials
Bolt	A headed and externally threaded fastener that is designed to be paired with a nut
Cab-forward	Windrower operation with Operator and cab facing in direction of travel
CDM	Cab display module on a windrower
Center-link	A hydraulic cylinder link between header and machine used to change header angle
CGVW	Combined gross vehicle weight
D Series Header	MacDon D50, D60, and D65 rigid draper headers
D1 SP Series Header	MacDon D115, D120, D125, D130, D135, and D140 SP rigid draper headers for M Series Windrower
DDD	Double-draper drive
DEF	Diesel exhaust fluid; also called AdBlue in Europe, and AUS 32 in Australia
DEF Supply Module	Pump that supplies diesel exhaust fluid through system
DM	Dosing module
DK	Double knife
DKD	Double-knife drive
DOC	Diesel oxidation catalyst
DRT	Aftertreatment decomposition tube
DWA	Double Windrow Attachment
ECM	Engine control module
Engine-forward	Windrower operation with Operator and engine facing in direction of travel
FFFT	Flats from finger tight
Finger tight	Finger tight is a reference position where sealing surfaces or components are making contact with each other, and fitting has been tightened to a point where fitting is no longer loose
GSL	Ground speed lever
GSS	Grass Seed
GVW	Gross vehicle weight
Hard joint	A joint made with use of a fastener where joining materials are highly incompressible
Header	A machine that cuts and lays crop into a windrow and is attached to a windrower
Hex key	A tool of hexagonal cross-section used to drive bolts and screws that have a hexagonal socket in head (internal-wrenching hexagon drive); also known as an Allen key and various other synonyms
HDS	Hydraulic deck shift

Term	Definition
hp	Horsepower
ISC	Intermediate Speed Control
JIC	Joint Industrial Council: A standards body that developed standard sizing and shape for original 37° flared fitting
Knife	A cutting device which uses a reciprocating cutter (also called a sickle)
MDS	Mechanical deck shift
n/a	Not applicable
N-DETENT	The slot opposite the NEUTRAL position of M Series SP Windrowers on operator's console
NPT	National Pipe Thread: A style of fitting used for low-pressure port openings. Threads on NPT fittings are uniquely tapered for an interference fit
Nut	An internally threaded fastener that is designed to be paired with a bolt
ORB	O-ring boss: A style of fitting commonly used in port openings on manifolds, pumps, and motors
ORFS	O-ring face seal: A style of fitting commonly used for connecting hoses and tubes. This style of fitting is also commonly called ORS, which stands for O-ring seal
R Series	MacDon R80 and R85 Rotary Disc Headers for windrowers
R1 SP Series	MacDon R113 and R116 Rotary Disc Headers for windrowers
RoHS (Reduction of Hazardous Substances)	A directive by the European Union to restrict use of certain hazardous substances (such as hexavalent chromium used in some yellow zinc platings)
rpm	Revolutions per minute
SAE	Society of Automotive Engineers
SCR	Selective catalytic reduction catalyst
Screw	A headed and externally threaded fastener that threads into preformed threads or forms its own thread into a mating part
SDD	Single-draper drive
Self-Propelled (SP) Windrower	Self-propelled machine consisting of a power unit with a header
SK	Single knife
SKD	Single-knife drive
Soft joint	A joint made with use of a fastener where joining materials are compressible or experience relaxation over a period of time
spm	Strokes per minute
Tension	Axial load placed on a bolt or screw, usually measured in Newtons (N) or pounds (lb.)
TFFT	Turns from finger tight
Torque	The product of a force X lever arm length, usually measured in Newton-meters (Nm) or foot-pounds (lbf·ft)
Torque angle	A tightening procedure where fitting is assembled to a precondition (finger tight) and then nut is turned farther a number of degrees to achieve its final position
Torque-tension	The relationship between assembly torque applied to a piece of hardware and axial load it induces in bolt or screw

Term	Definition
UCA	Upper cross auger
ULSD	Ultra-low sulphur diesel
Washer	A thin cylinder with a hole or slot located in the center that is to be used as a spacer, load distribution element, or locking mechanism
WCM	Windrower control module
Windrower	Power unit for a header
WOT	Wide open throttle

7.4 Lubricants, Fluids, and System Capacities

WARNING

To avoid injury or death, do NOT allow ANY machine fluids to enter the body.

Table 7.16 System Capacities

Lubricant/Fluid	Location	Description	Capacity
Diesel exhaust fluid (DEF)	Diesel exhaust fluid tank	Must meet ISO 22241 requirements	29 L (7.5 US gal)
Grease	As required unless otherwise specified	SAE multi-purpose high temperature extreme pressure (EP2) performance with 1% max molybdenum disulphide (NLGI Grade 2) lithium base	—
Diesel fuel	Fuel tank	Ultra low sulphur diesel (ULSD) Grade No. 2, or ULSD Grade No. 1 and 2 mix[16]; refer to *7.5 Fuel Specifications, page 238* for more information	378 L (97 US gal)
Hydraulic oil	Hydraulic reservoir	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil.	65 L (17.2 US gal)
Gear lubricant	Gearbox	SAE 80W-140[17], API service class GL-5. Fully synthetic gear lubricant (SAE J2360 preferred)	2.1 L (2.2 US qt.)
Gear lubricant	Wheel drive[18]	SAE 75W-90, API service class GL-5. Fully synthetic gear lubricant (SAE J2360 preferred)	1.4 L (1.5 US qt.)
Antifreeze	Engine cooling system	ASTM D-6210 and Fleetguard® ES Compleat™. Refer to *notes* following this table	27.5 L (7.3 US gal)[19]
Engine oil	Engine oil pan	SAE 15W-40 compliant with SAE specs for API class SJ and CJ-4 engine oil	11 L (11.6 US qt.)
Air conditioning refrigerant	Air conditioning system	R134A	2.27 kg (5 lb.)
Air conditioning refrigerant oil[20]	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl. oz.)

16. Optional when operating temperature is below 0°C (32°F).
17. SAE 75W-140 may be substituted for SAE 80W-140 if necessary.
18. SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.
19. Equal parts with high quality, soft, deionized or distilled water as recommended by Supplier.
20. New compressor (MD #183515) comes filled.

NOTE:

If Fleetguard® ES Compleat™ is unavailable, use a coolant concentrate or prediluted coolant intended for use with heavy-duty diesel engines. Ensure coolant meets a minimum of the following chemical and physical properties:

- Provides cylinder cavitation protection according to fleet study run at or above 60% load capacity.
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion.

An additive package should contain one of the following coolant mixtures:

- Ethylene glycol or propylene glycol base prediluted (40–60%) heavy duty coolant.
- Ethylene glycol or propylene glycol base heavy duty coolant concentrate in a 40–60% mixture of concentrate with quality water.

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT:

Do **NOT** use cooling system sealing additives or antifreeze that contains sealing additives. Ethylene glycol and propylene glycol may alter the freeze temperature. Verify that the mixture meets the freeze protection criteria of its intended use.

7.5 Fuel Specifications

Use only ultra low sulphur diesel (ULSD) from a reputable supplier. For most year-round service, No.2 ULSD fuel meeting ASTM specification D975 Grade S15 will provide good performance.

Table 7.17 Fuel Specification

Fuel	Specification	Sulphur (by weight)	Water and Sediment (by volume)	Cetane No.	Lubricity
No.2 ULSD	ASTM D975	0.5% maximum	0.05% maximum	40°C (104°F) minimum	520 microns
No.1 and No.2 mix[21] ULSD	n/a	0.5% maximum preferred (1% maximum)	0.1% maximum	45–55°C (113–131°F) cold weather / high altitude	460 microns

In extreme situations, when available fuels are of poor quality or problems exist which are specific to certain operations, additives can be used; however, the engine manufacturer recommends consulting the fuel supplier or engine manufacturer before using fuel additives. Situations where additives are useful include:

- A cetane improver additive can be used with low cetane fuels.
- A wax crystal modifier can improve fuels with high cold filter plugging points (CFPP).
- An anti-icer can help prevent ice formation in wet fuel during cold weather.
- An antioxidant or storage stability additive can help with fuel system deposits and poor storage stability.
- A lubricity enhancer can be used to increase the lubricity of fuels so that they meet the requirements given in Table *7.17, page 238*.

21. Optional when operating temperature is below 0°C (32°F).

Predelivery Checklist

Perform these checks and adjustments prior to delivery to your Customer. Complete this checklist and provide it to the Dealer or the Operator.

CAUTION

Carefully follow the instructions given. Be alert for safety related messages that bring your attention to hazards and unsafe practices.

Windrower Serial Number: **Engine Serial Number:**

Table .18 M155*E4* Self-Propelled Windrower Predelivery Checklist – Container Shipments

✓	Item	Reference
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	—
	Check for loose hardware. Tighten to required torque.	*7 Reference, page 221*
	Check tire air pressures and adjust as required.	*3.19.2 Checking Tire Pressures, page 78*
	Check final drive hub lubricant level.	*3.19.14 Checking and Adding Wheel Drive Lubricant, page 93*
	Check engine coolant level and strength at reserve tank.	*3.19.9 Checking Engine Coolant, page 84*
	Replace the diesel exhaust fluid (DEF).	*3.19.11 Replacing the Diesel Exhaust Fluid, page 84*
	Check air cleaner and clamps.	*3.19.4 Checking Engine Air Intake, page 80*
	Check hydraulic oil level and check for leaks along lines.	*3.19.5 Checking Hydraulic Oil Level, page 81*
	Check fuel separator for water and foreign material. Drain and clean as necessary. Add fuel.	*3.19.6 Checking Fuel Separator, page 82*
	Check engine oil level.	*3.19.7 Checking Engine Oil Level, page 82*
	Check gearbox lubricant level.	*3.19.8 Checking Gearbox Lubricant Level, page 83*
	Check tension of air conditioning compressor belt.	*3.19.10 Checking Air Conditioning Compressor Belt, page 84*
	Check that machine is completely lubricated.	*3.17 Lubricating the Windrower, page 71*
	Check neutral interlock system.	*5.1 Checking Safety System, page 165*
Start engine and run to operating temperature.		*5.3 Checking Windrower Startup, page 169*
	Check CDM for operation.	*5.5 Checking Gauges and Cab Display Module Display, page 171*
	Check Operator’s Presence System.	*5.2 Checking Operator's Presence System, page 168*
	Check alternator charge rate on CDM.	*5.6 Checking Electrical System, page 172*
	Check fuel gauge / indicator for operation.	*5.5 Checking Gauges and Cab Display Module Display, page 171*
	Check that air conditioning is functioning properly.	*5.11 Checking Air Conditioning and Heater, page 180*
	Check that heater is functioning properly.	*5.11 Checking Air Conditioning and Heater, page 180*

Table .18 M155*E4* Self-Propelled Windrower Predelivery Checklist – Container Shipments (continued)

✓	Item	Reference
	Check instrument console gauge lights.	*5.5 Checking Gauges and Cab Display Module Display, page 171*
	Check maximum (no load) engine speed at CDM.	*5.4 Checking Engine Speed, page 170*
	Check that exterior lights are functioning properly.	*5.7 Checking Exterior Lights, page 173*
	Check that interior lights are functioning properly.	*5.10 Checking Interior Lights, page 179*
	Complete the header's Predelivery Checklist.	—
	Check that manuals are in the windrower manual case.	*5.12 Checking Manuals, page 181*
	Remove plastic coverings from cab interior.	*5.13 Performing Final Steps, page 182*

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