INSTALLATION MANUAL

CNH 7,8,9 SERIES COMBINES

5000 Series Track Modules

Table of Contents

1 Definitions & Abbreviations:

HHCS	- Hex Head Cap Screw
SHCS	- Socket Head Cap Screw
RH	Right Hand Module or Right Hand Side of the Combine
LH	Left Hand Module or Left Hand Side of the Combine
HIM	High Idler Module
CAUTION	- Indicates possible hazardous situation that, if not avoided, may cause minor or moderate personal injury. This may also be used to indicate possible equipment damage, if not avoided.
WARNING	- Indicates possible hazardous situation that, if not avoided, may cause death or serious personal injury.
	- Indicates a prohibitive situation, DO NOT PERFORM

2 Recommended Tool List

2.1 Standard Tool List

- 34 mm Socket ¾” Drive
- 30 mm Socket ¾” Drive
- 19 mm Socket ½” Drive
- 30 mm Combination Wrench
- 15” Extension ¾” Drive
- ½” Drive Impact Wrench
- ½” to ¾” Drive Adapter
- ¾” Drive Ratchet
- ½” Drive Ratchet
- 600 lb. Torque Wrench
- Paint Marker
- 4” Disc Grinder - Electric
- 4” Wire Brush Cup
- Lacquer Thinner

2.2 Material Handling Equipment

- 8000 lb. Capacity Fork truck
- Air Jack and Jack Stands

3 Parts List

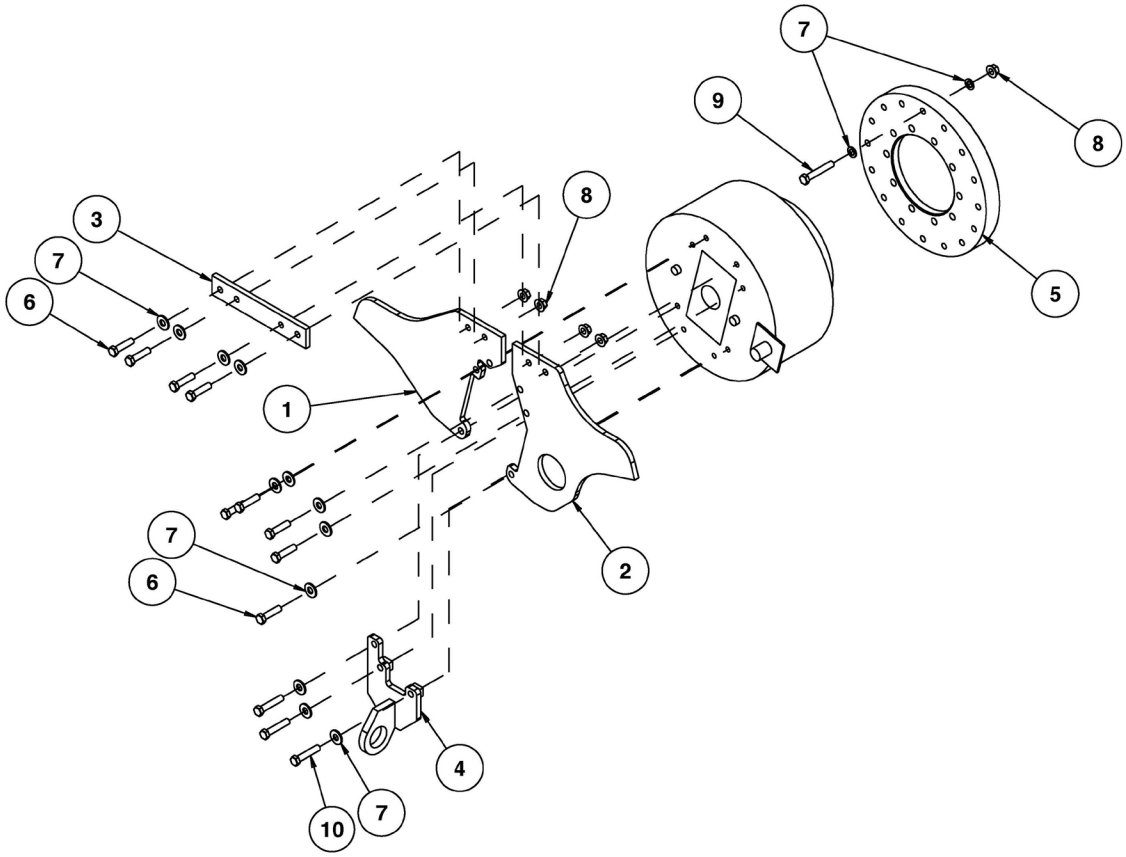

Figure 3-1 Installation Kit

REF NUMBER	ATI PART NUMBER	QTY	DESCRIPTION	NOTE
1	A0295	2	FRONT BOLT-ON LOW PROFILE COMPRESSION STOPS FOR VEHICLE	BOLT TO VEHICLE
2	A0296	2	REAR BOLT-ON LOW PROFILE COMPRESSION STOPS FOR VEHICLE	BOLT TO VEHICLE
3	A0262	2	OSCILLATION PLATE CONNECTION BRIDGE	BOLT BETWEEN COMPRESSION STOP PLATES
4	A0272	1	TOW CABLE GUIDE BRACKET (RIGHT HAND)	BOLT TO FINAL DRIVE
	A0273	1	TOW CABLE GUIDE BRACKET (LEFT HAND)	BOLT TO FINAL DRIVE
		2	ATI TRACK MODULE ASSEMBLIES	
	A0301	4	BOLT-ON COMBINE MODULE STOPS	BOLT TO TRACK MODULE
5	A0101	2	ADAPTER, 10 HOLES 13 3/16" BC, 11 1/8" ID	BOLT TO FINAL DRIVE
6	A0134	18	BOLT, M20-2.5 X 80mm GR 10.9, HEX HEAD	OSCILLATION PLATE CONNECTION BRIDGE, COMPRESSION STOP PLATE
7	A0239	88	M20 FLAT WASHER FOR GR 10.9 HARDWARE	OSCILLATION PLATE CONNECTION BRIDGE, COMPRESSION STOP PLATE, TOW CABLE GUIDE, TRACK MODULE TO ADAPTOR PLATE
8A	A0082	40	NUT, M20 GR 10.9, HEX FLANGE	ADAPTOR TO MODULE CONNECTION, AND CONNECTION BRIDGE
8B	A0338	40	NUT, HEX M20-2.5 GR 10.9	OPTIONAL ALTERNATIVE TO ITEM 8A
9	A0299	32	BOLT, M20-2.5 X 120 GR 10.9, HEX HEAD	ADAPTOR TO MODULE CONNECTION
10	A0283	6	BOLT, M20-2.5 X 100mm GR 10.9 PLATED	TOW CABLE GUIDE CONNECTION
	A0292	32	BOLT, M24-3 X 60 mm GR 10.9 PLATED	BOLT ON COMBINE MODULE STOPS
	A0268	32	STRUCTURAL WASHERS FOR M24 HARDWARE	BOLT ON COMBINE MODULE STOPS

4 Lifting Instructions

WARNING DO NOT USE FORKS WITH SHARP EDGES OR CORNERS. GRIND ANY SHARP EDGES SMOOTH BEFORE ATTEMPTING TO LIFT TRACK MODULES.

WARNING BE CAREFUL NOT TO DAMAGE THE BELT DRIVE LUGS, BOGIES, OR IDLERS WITH THE FORKS.

4.1 Bring the forklift to the side of the Track Module with the forks aligned with the space between the bogie and idler wheels. (See Figure 4 1) The forks should be on the bottom side of the wheels but high enough to clear the drive lugs of the belt.

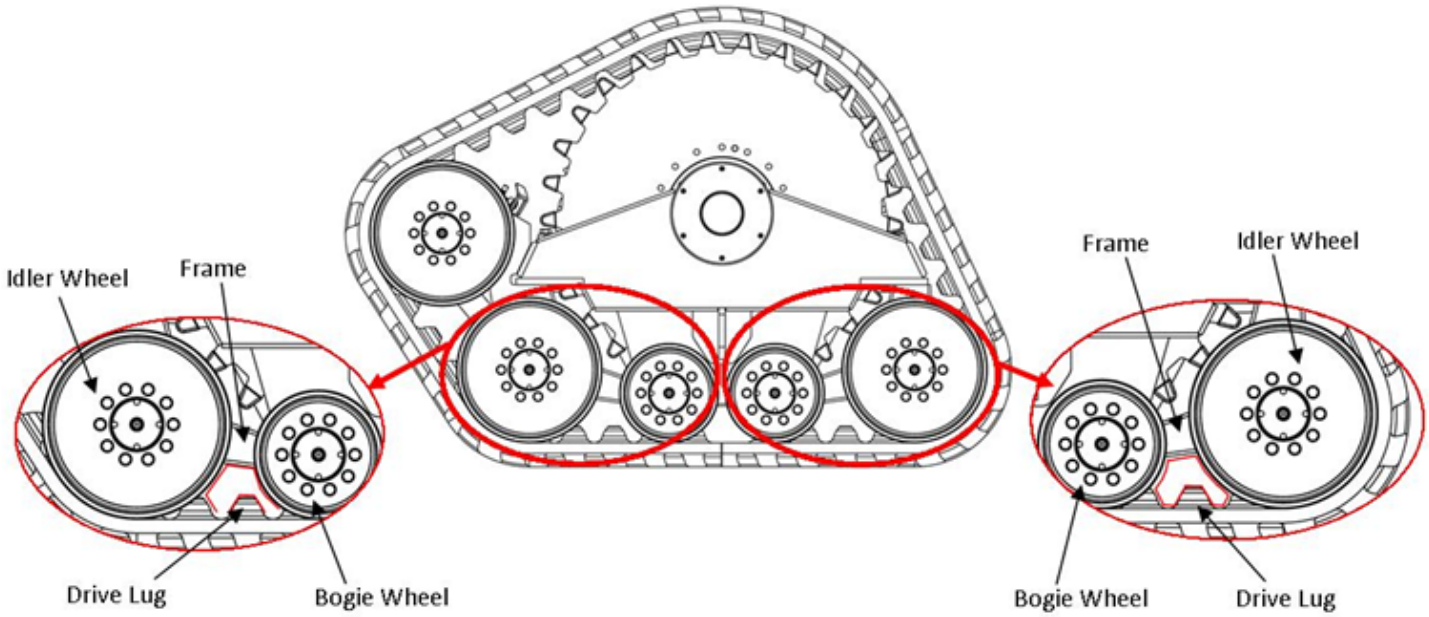

Figure 4-1 Lifting Points

4.2 A spotter should watch as the forklift drives forward into the Track Module. Allow the forks to enter the space between the belt and wheels. (See Figure 4 1) Be careful not to damage the drive lugs with the forks. Be sure forklift tips are even with the far edge of the belt. Tilt the forks back towards the mast of the forklift and raise Track Module off the trailer. Unload the Track Module and position in the installation area so a forklift can access both sides.

5 Installation of Oscillation Stops

5.1 Raise and support vehicle per manufacturer's instruction.

5.2 Remove wheel assembly.

5.3 Disconnect and remove final drive input shaft.

5.4 Remove the front upper three bolts attaching the final drive to the axle extension.

Figure 5-1 Front Bolt Removal

5.5 Install the front oscillation stop plate with new bolts as shown in Figure 5-2. Only install the top two bolts at this time. Torque the bolts to the vehicle manufacturer's specification.

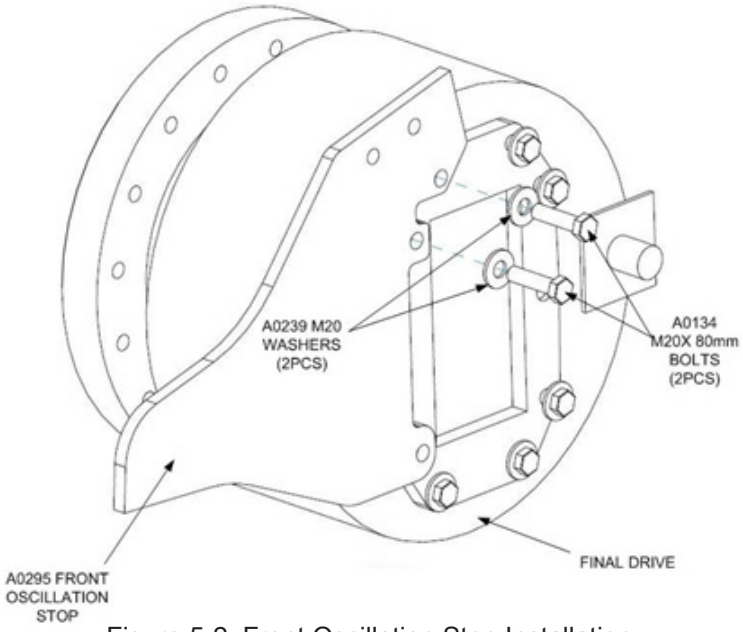

Figure 5-2 Front Oscillation Stop Installation

5.6 Remove the rear upper three bolts attaching the final drive to the axle extension.

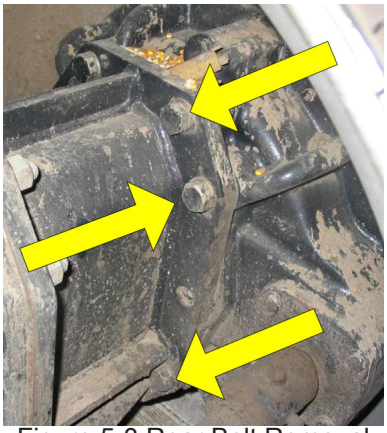

Figure 5-3 Rear Bolt Removal

5.7 Install the rear oscillation stop plate with the bolts and washers finger tight as shown in Figure 5-4.

5.8 Install the oscillation stop connection bridge with bolts, washers, and nuts as shown in Figure 5-4.

5.9 Torque the bolts holding the rear oscillation stop plate to the vehicle manufacturer's specification.

5.10 Be sure the oscillation plate bridge bolts and nuts are free of any lubrication. Tighten the oscillation plate bridge bolts to 400 ft-lbs.

5.11 Make sure the two plates are parallel and straight up and down. If they are not, additional washers may be necessary to use as shims on the back side of the plates.

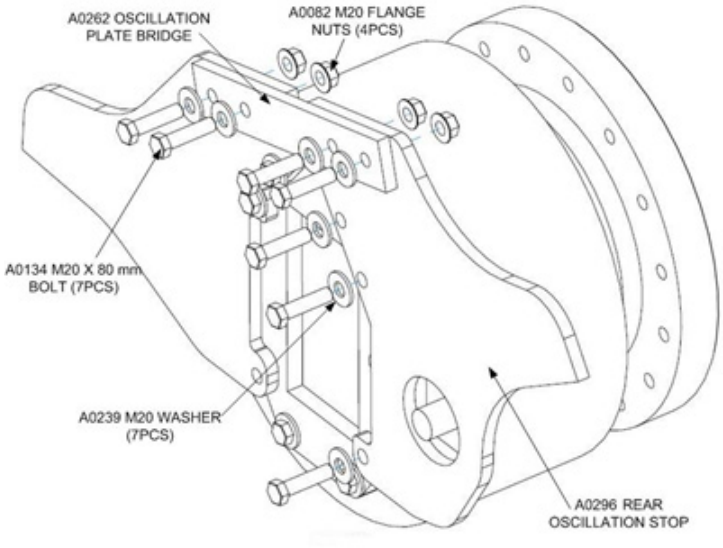

Figure 5-4 Rear Oscillation Stop and Connection Bridge

5.12 Install the tow cable guide bracket with bolts and washers as shown in Figure 5-5. Torque the bolts to the vehicle manufacturer's specification.

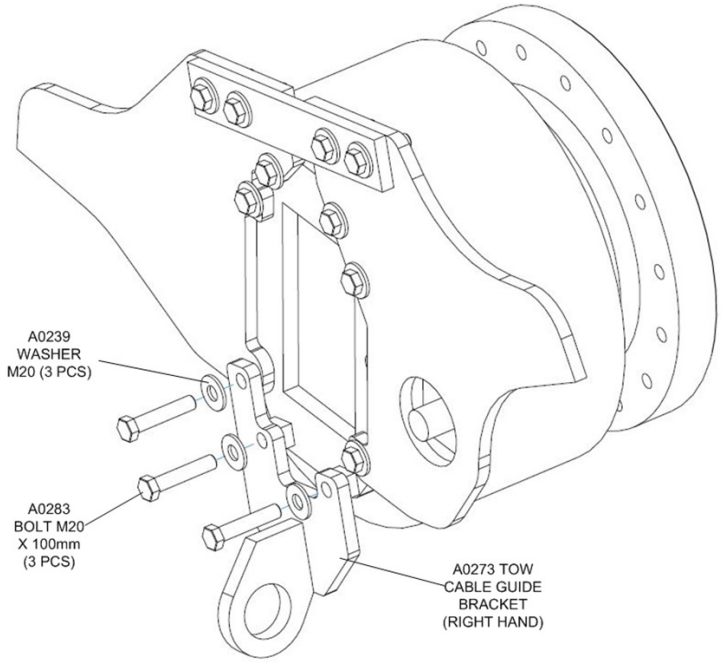

Figure 5-5 Tow cable guide bracket installation.

5.13 Clean final drive to wheel mounting flange and bolt holes of rust and/or oil and grease.

5.14 Clean the Adaptor Plate and bolt holes of all oil, grease, and rust preventative.

5.15 Install the Adaptor Plate onto the Final Drive using the wheel bolts, and torque to the vehicle manufacturer's torque specification.

5.16 Make sure the head of the bolts do not protrude past the track module mating surface.

Figure 5-6 Adaptor Plate

6 Determining the Left-hand and Right-hand Track Module

6.1 The machined mounting surface of the Drive Wheel is on the inside of the Track Module and will be oriented towards the combine.

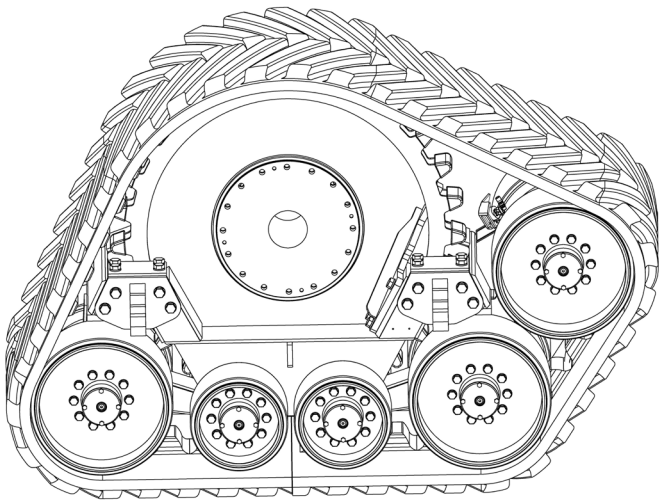

Figure 6-1 Inside View

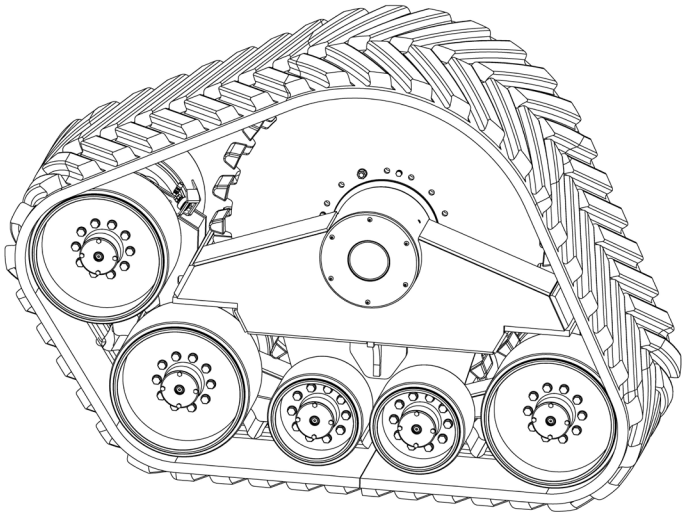

Figure 6-2 Outside View

6.2 The High Idler Wheels are on the front of the Track Module, and will be oriented towards the front of the Combine.

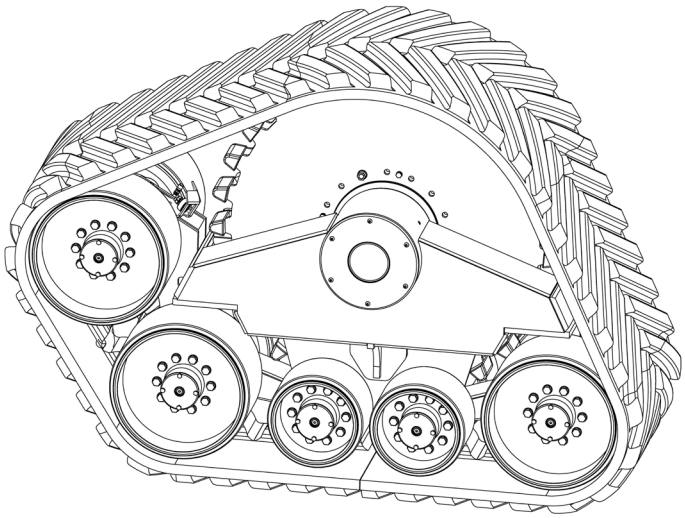

Figure 6-3 Left Hand Track Module

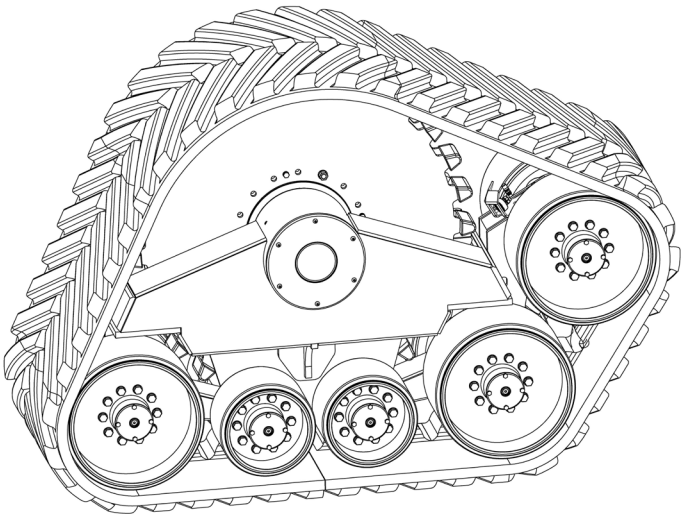

Figure 6-4 Right Hand Track Module

7 Track Module Installation

7.1 Remove all surface preservative from the contact surface of Drive Spindle to Adapter Plate and all bolt holes. Use isopropyl alcohol, acetone or lacquer thinner.

CAUTION

YOU CAN BE SERIOUSLY INJURED IF YOU ARE EXPOSED OR COME IN CONTACT WITH THESE CHEMICALS. WEAR PROTECTIVE CLOTHING.

7.2 Bring the forklift to the outside of the Track Module with the forks aligned with the space between the bogie and idler wheels. The forks should be on the bottom side of the wheels but high enough to clear the drive lugs of the belt.

CAUTION

BE CAREFUL NOT TO DAMAGE THE BELT DRIVE LUGS, BOGIES, OR IDLERS WITH THE FORKS.

7.3 A spotter should watch as the forklift drives forward into the Track Module. Allow the forks to enter the space between the belt and wheels. Be careful not to damage the drive lugs with the forks.

7.4 Raise the Track Module off the floor and align with the Adaptor Plate. The Track Module should be slightly tilted back, away from the combine.

7.5 Align the mounting holes on the Drive Wheel with the holes in the Adaptor Plate by rotating the Adaptor Plate. Note: the final drive input shaft must be removed.

7.6 Slowly bring the Track Module into contact with the Adapter Plate.

WARNING

DO NOT GET BETWEEN THE TRACK MODULE AND THE COMBINE!

KEEP HANDS AND FEET CLEAR WHEN ALIGNING TRACK MODULE TO COMBINE!

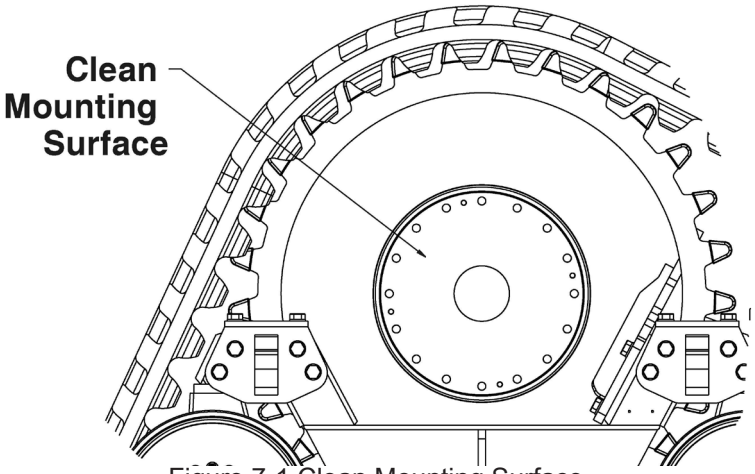

Figure 7-1 Clean Mounting Surface

Figure 7-2 Track Module Lifting Points

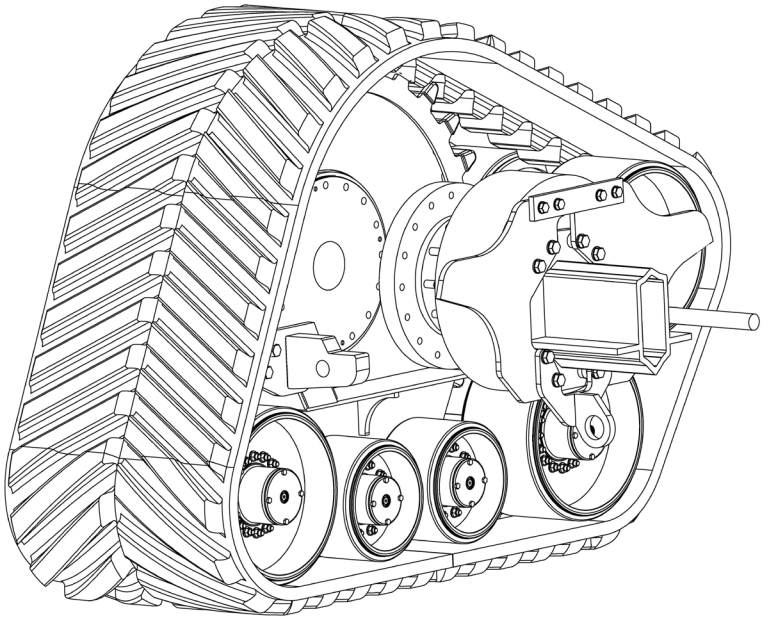

Figure 7-3 Track Module Installation

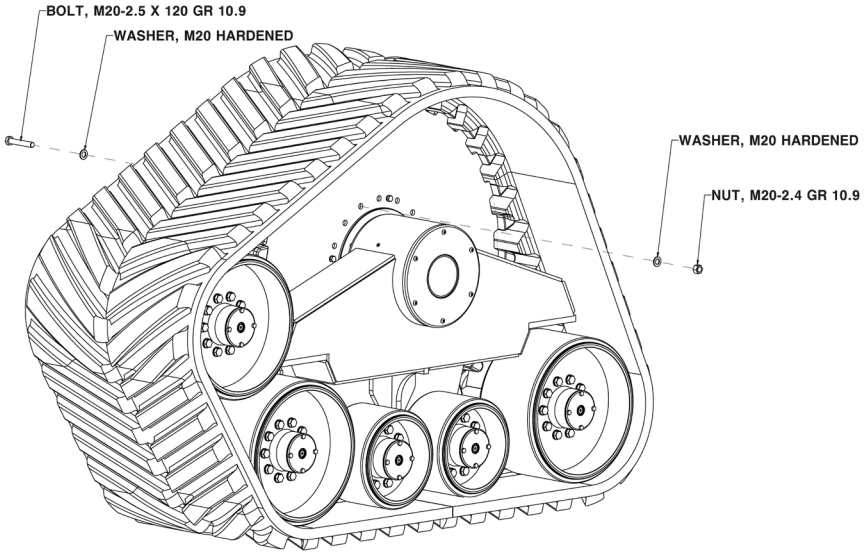

Figure 7-4 Mounting Hardware

7.7 Install sixteen (16) M20-2.5 x 120 GR 10.9 Bolts with sixteen (16) M20 Hardened Washers through the Adaptor Plate and Track Module Drive Wheel.

7.8 On the outside of the Track Module Drive Wheel, install as many M20-2.5 GR 10.9 Hex Nuts, and M20 Hardened Washers as the structure will permit; typically five (5) to six (6).

7.9 Using an impact wrench, tighten these fasteners to a maximum of 250 ft. lbs. Final torque will be performed later.

7.10 Reinstall the final drive input shaft.

7.11 Repeat steps 7.1 to 7.10 to mount the remaining Track Module

7.12 Lower the combine onto the floor, remove the air jack and safety stands. Clear all tools, parts, and air lines from the path of equipment.

7.13 Start the combine and move forward enough to enable installation of the next group of five (5) to six (6) M20-2.5 GR 10.9 Hex Nuts, and M20 Hardened Washers.

7.14 Install five (5) to six (6) M20-2.5 GR 10.9 Hex Nuts, and M20 Hardened Washers on both Track Modules. Tighten using an impact wrench to a maximum of 250 ft. lbs. Final torque will be performed later.

7.15 Repeat Steps 7.13 and 7.14 until all nuts and washers are installed.

7.16 <u>After</u> all nuts are installed, torque to 400 ft. lbs. (542 Nm).

7.17 After each nut has been tightened to specification, mark the end of the bolt with the paint marker to indicate specified torque is complete.

7.18 After installing and tightening the fasteners, examine the gap between the Adaptor Plate and the Track Module Drive Spindle. The Adaptor Plate must be centered on the Drive Spindle Face with a uniform gap.

7.19 If the Adaptor Plate is not centered, or the gap is not uniform, loosen the sixteen (16) M20-2.5 x 120 GR 10.9 Bolts and M20-2.5 GR 10.9 Hex Nuts. Reposition the Track Module and re-tighten the mounting hardware as in steps 7.9 -7.17.

7.20 Touch-up paint as needed.

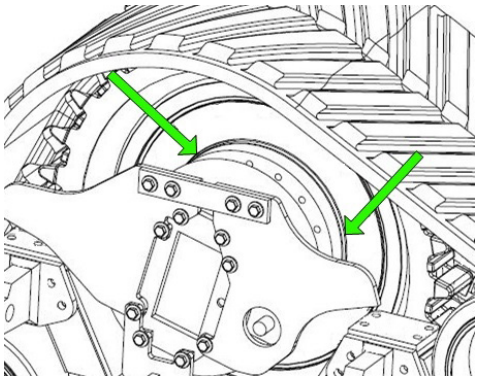

Figure 7-5 Check Alignment

8 Break-in and Belt Care/Conditioning

Break-in Procedure

8.1 The following is the break-in procedure for the modular track system after installation of a new track system on a vehicle, or installation of a new belt on an existing track module. Prior to operating/running the equipment, talc must be applied to the drive lugs of the rubber track belt to aid in the proper belt conditioning.

8.2 The talc should be poured into the inside of the drive wheel from the inside of the track module.

8.3 Pour one cup of talc into the front of the drive wheel and one cup into the rear of the drive wheel.

8.4 Moving the equipment forward (or reverse) will spread the talc over the drive lug teeth.

8.5 Be sure all the guide/drive lugs have talc on all surfaces.

8.6 Always expose new or clean track to dry and dusty soil conditions as soon as possible.

8.7 Run vehicle for ten (10) hours after installation. Then, check the hydraulic pressure on the belt tension system and the torque on all wheel bolts and Track Module mounting bolts.

8.8 Repeat checking the pressures and torque values until stabilized.

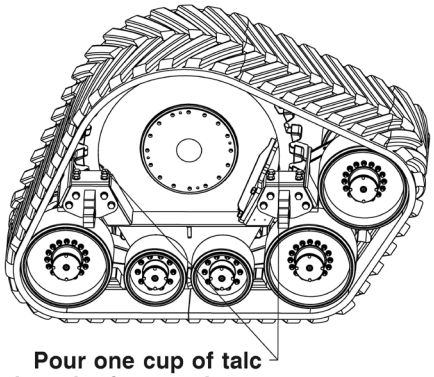

Figure 8-1 Apply Talc

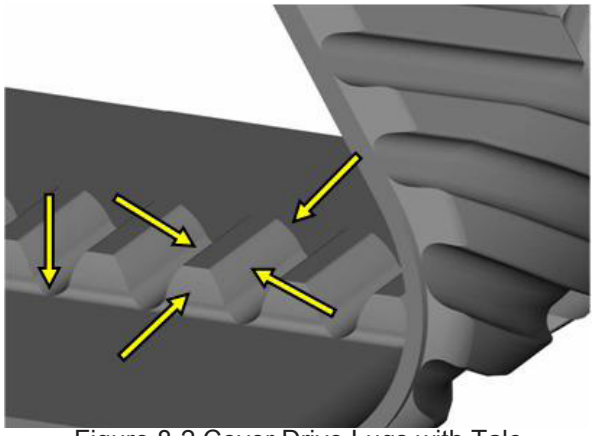
Figure 8-2 Cover Drive Lugs with Talc

WARNING

VEHICLE MUST BE STATIONARY AND ENGINE OFF BEFORE POURING TALC INTO TRACK MODULES!

Roading

8.9 High speed roading increases tread wear rates up to 15 times the field wear rates and builds excessive heat which can reduce drive lug and traction lug life. Roading should be avoided prior to the completion of the break-in phase, particularly on asphalt roads. If road travel is necessary with new tracks, then reduce speed and use a dry lubricant such as talc.

8.10 Extended roading of a new track during the break-in period and especially prior to the initial field use is not recommended, and may lead to significant drive lug and traction lug scuffing due to heat. Break-in wear is non-warrantable.

9 Specifications

TORQUE SPECIFICATIONS FOR HARDWARE						
BOLT SIZE	BOLT TYPE	BOLT GRADE	DRY FT-LB (N-m)	WET FT-LB (N-m)	LOCATION	QTY PER MODULE
M10	Hex Head Bolt	10.9	40 (54)	30 (41)	Wheel Hub Caps	40
M10	Button Head Bolt	8.8	15 (20)	11 (15)	Drive Hub Cover	6
M10	Hex Head Bolt	8.8	15 (20)	11 (15)	Remote Gauge Bracket	1
M12	Hex Head Bolt	8.8	75 (101)	56 (76)	Drive Spindle Lock Nut (6)	6
M14	Hex Head Bolt	8.8	120 (162)	90 (122)	Cylinder Pins (2) & Drive Wheel Attachment to Drive Spindle (4)	6
M20	Hex Head Bolt	10.9	400 (542)	300 (407)	Wheel Bolts	100
M20	Hex Head Bolt	10.9	400 (542)	300 (407)	Drive Wheel to Adapter (16)	16
M20	Hex Head Nut	10.9	400 (542)	300 (407)	Pivot Pin Retaining Bolt	1
M24	Hex Head Bolt	10.9	400 (542)	300 (407)	Module Stops & Drive Wheel Scraper	20

TORQUE SPECIFICATIONS FOR JIC 37° CONNECTORS						
		TORQUE		TOLERANCE		
SAE DASH SIZE	THREAD SIZE	FT-LB	N-m	FT-LB	N-M	FFFT
-6	9/16 -18	21	28	+/- 1	+/- 1	1 1/4

TORQUE SPECIFICATIONS FOR O-RING BOSS CONNECTORS					
		TORQUE		TOLERANCE	
SAE DASH SIZE	THREAD SIZE	FT-LB	N-M	FT-LB	N-m
-6	9/16 -18	27	37	+/- 2	+/- 3
-8	3/4 -16	48	65	+/- 2	+/- 3

LUBRICATION CAPACITIES				
AMBIENT TEMPERATURE RANGE	LUBRICATION SYSTEM	METHOD OF LUBRICATION	TYPE OF LUBRICATION	CAPACITY
20°F (7°C) to 100°F (38°C)	Hydraulic System	Reservoir	Hy-Gard Hydraulic/ Transmission Oil	0.5 Gallon (2Liters)
	Drive Spindle Bearings	Grease Packed	Mobilith SHC 220	4 Lbs. (2 Kg)
	Each Wheel Hub	Oil Bath	SAE 15W40	11 oz. (325mL))

PRESSURE SETTING FOR TENSIONING SYSTEM			
SUB SYSTEM	CHARGED WITH	INITIAL PRESSURE SETTING	PRESSURE SET-TING AFTER BREAK-IN
Accumulator	Nitrogen	580 psi (4.00 MPa)	580 psi (4.00 MPa)
Hydraulic System	Hy-Gard Hydraulic/ Transmission Oil	850 psi (5.86 MPa)	750 psi (5.17 MPa)

BEARING PRELOAD	
LOCATION	PRELOAD
Wheel Hub	1.5 Tangs
Drive Spindle	15°

10 Index