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385, 484, 584, 684, 784, 884, & Hydro 84 Tractors

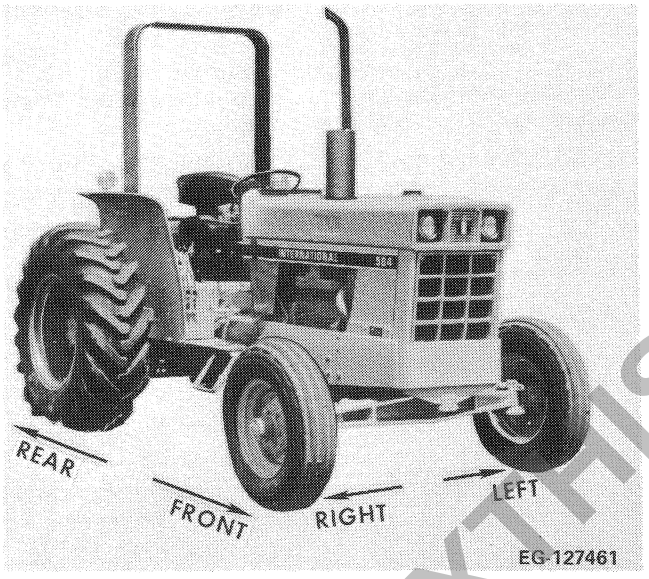
Operators Manual

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CASE IH

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584 Tractor with Optional Equipment

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This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death. SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

1. GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
2. MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.

WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

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STANDARD TORQUE DATA FOR INCH NUTS AND BOLTS – NEWTON METERS

Recommended torque for all Standard Unplated Nuts and Bolts, provided:

A. Surface finish is oxide coated, oil quenched or bright.

B. All thread surfaces are clean and lubricated with SAE-30 engine oil or equivalent (See NOTE.)

C. Joints are rigid, that is, no gaskets or compressible materials are used.

D. When reusing nuts or bolts use minimum torque values.

NOTE: Multiply the standard torque by:
.65 when finished jam nuts are used.
.70 when Molykote, white lead or similar mixtures are used as lubricants.
.75 when phosphate coated or oiled bolts or nuts are used.
.85 when cadmium or zinc dichromate bolts or nuts are used.
.90 when hardened surfaces are used under the nut or bolt head (this applies to standard unplated hardware only).

1 NEWTON METER = 0.738 FOOT POUND

Bolt or Stud Diameter	**Type 1** Studs Only		**Type 1 Bolts** 6" length or less		**Type 1 Bolts** longer than 6"		**Type 5** (all lengths)		**Type 8 (all lengths)**			
									Only when used† in cast (gray) iron		All other applications	
Inches	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	7	8	8	9	5	5	12	14	15	18	18	19
5/16	16	18	15	18	9	11	24	27	30	34	34	38
3/8	28	33	28	33	18	19	45	50	56	62	61	68
7/16	47	52	47	52	27	31	72	81	88	100	102	115
1/2	71	79	71	80	42	47	109	122	136	152	156	176
9/16	95	109	102	115	61	69	156	176	197	217	224	251
5/8	133	149	141	159	84	95	217	244	271	305	305	346
3/4	236	265	251	278	149	170	387	434	482	543	543	611
7/8	380	427	244	271	244	271	624	780	773	868	875	984
1	570	638	360	407	360	407	929	977	1160	1303	1316	1479
1-1/8	807	909	516	577	516	577	1153	1289	1642	1845	1866	2096
1-1/4	1140	1282	726	814	726	814	1628	1832	2313	2605	2632	2958
1-3/8	1492	1682	950	1065	950	1065	2130	2388	3033	3412	3446	3881
1-1/2	1995	2225	1255	1418	1255	1418	2822	3175	4030	4532	4579	5149

†When bolt penetration is 1-1/2 times the diameter of the bolt.

BOLT TYPE IDENTIFICATION CHART

IH TYPE	S.A.E. GRADE	DESCRIPTION	BOLT HEAD MARKING*
1	Equivalent 1 or 2	WILL HAVE A ⟂³ STANDARD MONOGRAM IN THE CENTER OF THE HEAD Low or Medium Carbon Steel Not Heat Treated	
5	5	WILL HAVE A ⟂³ AND 3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	8	WILL HAVE A ⟂³ AND 6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

*The center marking identifies the bolt manufacturer.

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CLUTCH PEDAL (GEAR DRIVE OR FORWARD AND REVERSE DRIVE)

This pedal is used to disengage the drive between the engine and transmission. The clutch is disengaged when the pedal is fully depressed.

FORWARD AND REVERSE DRIVE LEVER

Move the lever fully forward to select forward drive and fully rearward for reverse drive. The clutch pedal must be fully depressed before moving the lever.

TORQUE AMPLIFIER LEVER (GEAR DRIVE)

This lever is mounted on the instrument panel to the left of the steering wheel.

Move the lever fully forward for direct drive or fully rearward to bring the torque amplifier into operation.

FOOT-N-INCH PEDAL (HYDROSTATIC)

If this pedal is held partially or fully depressed for an extended period of time serious overheating of the transmission will result. For this reason the pedal MUST NOT be used like the clutch pedal on the gear drive tractors for such operations as moving from rest or changing direction, but may be used to 'inch' the tractor when hitching implements.

In an emergency, fully depressing this pedal will relieve the fluid pressure to the hydrostatic motor thereby disconnecting the drive.

NOTE: A safety start switch prevents the engine being started unless the Foot-N-Inch pedal is fully depressed.

SPEED RATIO (SR) LEVER (HYDROSTATIC)

This lever is used to select direction, speed and power.

For forward travel lift the lever. This is the FORWARD zero speed position. Progressively moving the lever forward will increase forward speed. When the lever is returned to the zero speed position it will remain in this position until the tractor has almost stopped then the lever will return to neutral.

For reverse travel depress the lever. This is the REVERSE zero speed position. Progressively moving the lever rearward will increase rearward speed. When the lever is returned to the zero speed position it will automatically return to neutral when released.

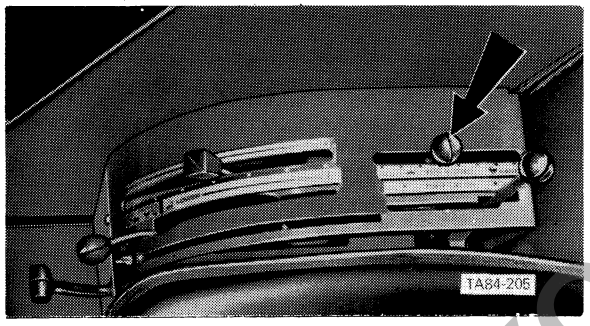
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The position control lever is used to raise or lower the implement at the end of the field without moving the draft control lever.

When using implements that do not require draft control, the lever must be moved to the most forward position of the quadrant so that the draft control is locked out.

RAISE RESPONSE LEVER

The raise response lever provides an adjustment to the speed at which the linkage will lift when using draft control.

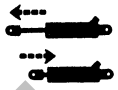


Raise Response Lever

To operate the raise response lever, the lever **MUST** first be fully rearward in the **FAST** position and the draft control lever set as previously mentioned. If the implement tends to jump as the draft sensing operates causing rapid changes in depth, or bucking of the tractor, the raise response lever is gradually moved forward until the jump or bucking is reduced to an acceptable level. Once the desired raise response is obtained, only minor adjustment of the raise response lever should be required where rapid changes in terrain occurs.

When the position control lever is moved to the maximum raise position to lift the implement at the end of the field, the raise response is overriden so that maximum raise speed is obtained. The raise response automatically reverts to the pre-selected setting when the position control lever is moved forward to lower the equipment.

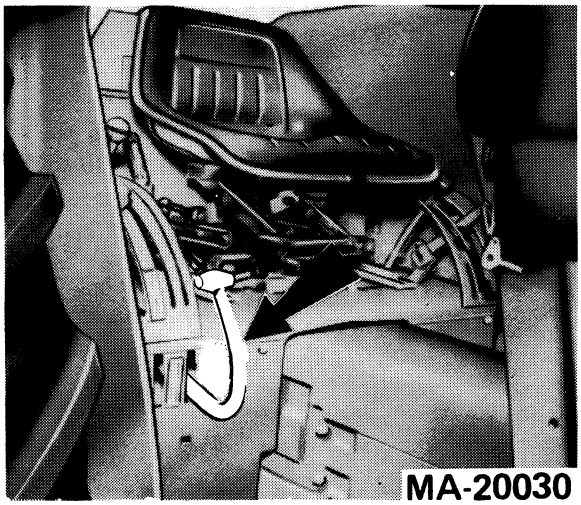
AUXILIARY VALVES



Provision is made to install either one or two auxiliary control valves on the right side of the hydraulic lift housing to provide hydraulic control of mounted or trailing equipment. The control levers are located forward of and below the operating quadrants for the main hydraulic system controls.

The valves can be set for float operation when it is necessary for equipment to follow ground contours. When both levers are moved simultaneously to the raise position, the cylinder with the lightest load will move first.

The inner (or single) auxiliary valve will always control equipment which is operated through self sealing breakaway couplings mounted at the rear of the tractor.



Auxiliary Valve Lever

CAUTION! Never park equipment in the raised position. Moving a control lever to lower will lower the equipment, even though the engine is stopped. If it is necessary to work under equipment in the raised position, use stands to safely block the equipment in place.

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AFTER STARTING

If necessary, operate the ether start button to obtain smooth running.

Move the fuel control lever to the RUN position and set the engine speed to 1500 rev./min. to warm up the engine and transmission fluid.

Release the clutch or Foot-N-Inch pedal.

Check the engine oil pressure and alternator warning lights.

CAUTION! Do not run the engine in an enclosed building any longer then is necessary for the immediate moving of the tractor out of or into the area. Exhaust gases are dangerous. Opening doors and windows may not provide adequate ventilation.

Do not run the engine with the keyswitch in the OFF position.

STOPPING THE ENGINE

Run the engine at 1500 rev./min. for some minutes to allow the engine to cool while oil and coolant are still circulating.

Move the fuel control to the STOP position.

When the engine has come to rest, turn the key to the OFF position.

DRIVING THE TRACTOR

The engine speeds mentioned apply to an engine that has been run-in. Refer to ENGINE RUN-IN PROCEDURE.

On early gear drive models and all hydrostatic tractors ensure that the **RANGE** lever is in **NEUTRAL** and on current gear drive models ensure the **SPEED** lever is in **NEUTRAL.** Ensure the parking brake is **ON** then start the engine and allow a warming up period. Refer to **AFTER STARTING.**

CAUTION! There is no neutral position of the speed lever on early tractors with the notched slot gear change.



CAUTION! Avoid sudden starts, excessive speed, sudden stops. Keep vehicle in gear when going down hills.

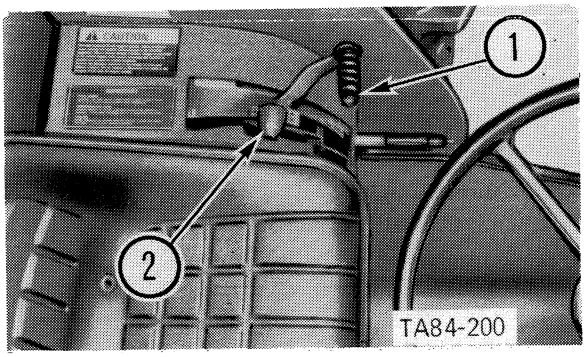
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GEAR DRIVE OR FORWARD AND REVERSE DRIVE

Depress the clutch pedal and select the required range and speed.

Forward and reverse drive tractors also require selecting the required direction of travel. Also see FORWARD AND REVERSE DRIVE.

See the following illustrations which show various vintages of range and speed transmision shift levers.



1 - Range lever
2 - Speed lever

Range and Speed Levers
(Early Tractors)

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TIRE COMBINATIONS

CURRENT TRACTORS WITHOUT FOUR-WHEEL DRIVE

FRONT TIRE	9.5L-15						6.00-16		7.50-16						7.50-18					10.00-16			
UTILITY MODEL	484	584	H-84	684	784	884	484	385	484	584	H-84	684	784	884	584	H-84	684	784	884	H-84	684	784	884
REAR TIRE SIZE																							
14.9-24	X	X L							X	X L					X L								
16.9-24	X	X L	X L	X L	X L	X L			X	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L
13.6-28	X	X L	X L	X L	X L	X L			X	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L
14.9-28		X L	X L	X L	X L	X L				X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L
16.9-28	X	X L	X L	X L	X L	X L			X	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L
18.4-26		X L	X L	X L	X L	X L				X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L	X L
16.9-30		X	X	X	X	X								X	X	X	X	X	X	X	X	X	X
18.4-30		X	X	X	X	X				X	X	X	X	X	X	X	X	X		X	X	X	X
16.9-34					X	X							X	X				X	X			X	X
ROW CROP MODEL REAR TIRE SIZE																							
16.9-30		X	X	X											X	X	X			X	X		
18.4-30			X	X	X	X					X	X	X	X		X	X	X	X	X	X	X	X
13.6-38		X	X	X						X	X	X			X	X	X			X	X		
15.5-38		X	X	X	X	X				X	X	X		X	X	X	X	X		X	X	X	X
12.4-42		X	X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X

FRONT TIRE	9.00-10						9.5L-15					
LOW PROFILE MODEL	484	584	H-84	684	784	884	484	584	H-84	684	784	884
REAR TIRE SIZE												
18.4-16.1							X	X				
14.9-24	X	X	X				X	X				
16.9-24							X	X	X	X	X	X
18.4-26								X	X	X	X	X

All applications are with standard front axle unless otherwise noted.

Symbol Code

L = Low front spindle

⊠ = Standard tires with standard spindle axle

[X] = Optional tires with standard spindle axle

[X L] = Optional tires with low spindle axle

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LUBRICATION GUIDE

AFTER EVERY 200 HOURS OF OPERATION

1 - Crankcase Drain Plug	Remove the crankcase drain plug and drain all the oil from the crankcase while the engine is warm; then replace the plug and refill with new oil to the "FULL" mark on the oil level gauge. Refer to the **LUBRICATION TABLE.**
2 - Engine Oil Filter	Replace the oil filter with every oil change (200 hours of operation). Refer to **ENGINE AND FUEL SYSTEM.**
3 - Clutchshaft (Gear Drive or Forward and Reverse Drive)	Use I.H. 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply one or two strokes to the lubricator.
4 - Transmission Filter **5 - Hydrostatic Filter (Hydrostatic only)**	Replace the filter element and clean the filter by-pass valve screen. Refer to **FILTERS.**

AFTER 800 HOURS OF OPERATION

1 - Front Wheel Bearings	Once a year, remove, clean and repack the front wheel bearings with IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease. However, do not drive the tractor more than 800 hours without servicing the front wheel bearings. If the tractor is operated in rice field of similar severe wet conditions, wheel hubs must be completely filled with grease and daily greasing is essential (when wheel hub has a lube fitting). Refer to **LUBRICATION.**

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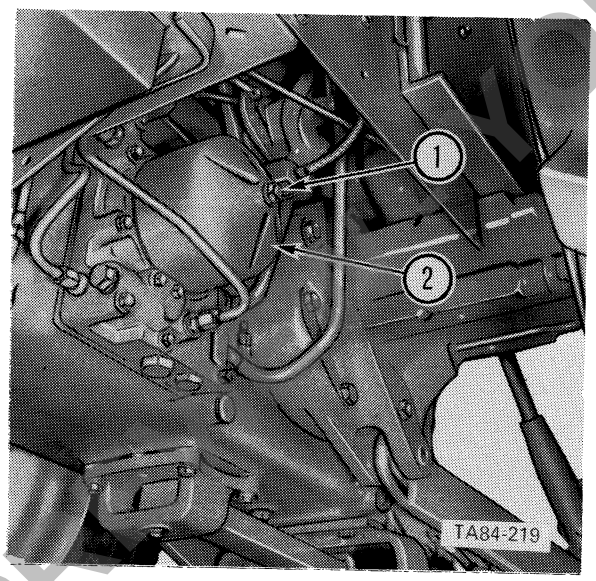
FILTERS

The transmission/hydraulic system is protected by a filter mounted on the multiple control valve on the left side of the rear frame. Hydrostatic tractors have an additional filter mounted on the left side of the hydrostatic housing below the footplate. These filters must be changed and the by-pass screens cleaned after the first 10 hours, the first 100 hours and thereafter every 200 hours of operation.

TRANSMISSION FILTER

Loosen the bolt, and at the same time, withdraw the filter case. Some fluid will be lost.

Remove and discard the 'O' ring and the element.



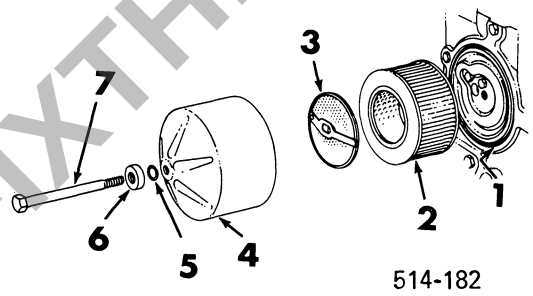
1 – Bolt 2 – Filter Case

Transmission Filter

Remove the by-pass valve screen from the bolt and out of the filter case. Remove the bolt complete with 'O' ring and retainer from the filter case. Discard the 'O' ring and check that the retainer is in good condition.

Clean the by-pass valve screen with a brush and clean diesel fuel. Clean the filter case.

Lubricate new 'O' rings with **'HY-TRAN'** before installation. Install a new 'O' ring into the groove in the multiple control valve. Install the bolt complete with retainer and new 'O' ring into the filter case.



1 – 'O' ring
2 – Element
3 – By-pass screen
4 – Filter case
5 – 'O' ring
6 – Retainer
7 – Retainer bolt

Transmission Filter Dismantled

Assemble the by-pass valve and new filter element onto the bolt.

Install the filter assembly onto the multiple control valve ensuring that the filter case is **CORRECTLY** seated on the 'O' ring, then tighten the retaining bolt to 16 to 22 N·m (12 to 16 lbf.-ft.). If a torque wrench is not available, **DO NOT** overtighten the retaining bolt.

Purge the air from the system as detailed under **PURGING THE SYSTEM OF AIR.**

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TRACTORS WITHOUT ROPS (Roll Over Protective Structure)

International Harvester strongly recommends a ROPS (roll over protective structure). A ROPS frame is available for these tractors. TRACTORS CAN BE ROLLED OVER.

To reduce your chance of an overturn, slow down on turns, rough ground or hills. Hitch only to the drawbar-never higher. Do not jerk.

TRACTORS WITH ROPS (Roll Over Protective Structure)

If ROPS (Roll Over Protective Structure) is removed from tractor for a specific reason, the ROPS mounting hardware must not be substituted during reinstallation of the ROPS frame. The ROPS mounting bolts must be tightened to a specified torque.

Torque the three 7/8 x 2-3/4 inch bolts and nuts at each fender 570 to 637 N·m (420 to 470 lbf. ft.)

Torque the four 3/4 x 10 inch bolts and nuts at each axle carrier in an X sequence from front to rear in four progressive steps:

First	Torque	100 N·m (75 lbf. ft.)
Second	Torque	200 N·m (150 lbf. ft.)
Third	Torque	240 to 270 N·m (175 to 200 lbf. ft.)
Fourth	Torque	Repeat step three torque.

CAUTION! Total weight of the tractor and mounted attachments should never exceed 4608 kg. (10,150 lbs.) when the tractor is equipped with a ROPS frame.

AFTER AN UPSET

No attempt should be made to straighten, weld, or otherwise repair the protective frame. It must be replaced in its entirety.

NOTE: Do not operate the tractor or run the engine until a thorough inspection has been made to determine that all components, controls, systems, etc. are operating correctly. The tractor must be inspected for other damage, preferably, by your International Harvester dealer, and all necessary corrections made.

BEFORE DISMOUNTING

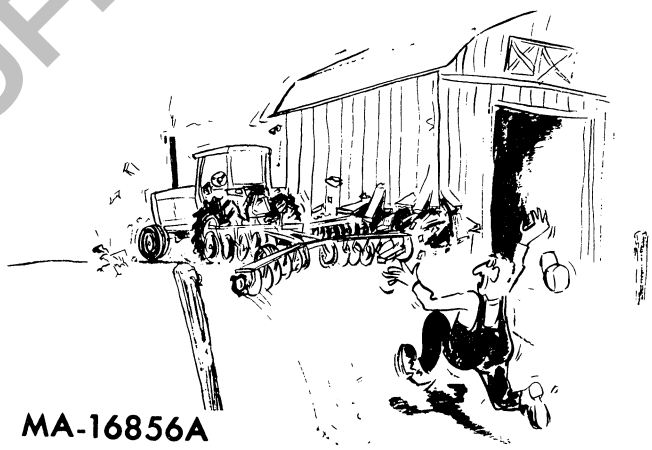
Always wait for the tractor to come to a complete stop.

Always shift to neutral and engage the park brake before getting off the tractor. If the tractor is to be left unattended, lower the implement to the ground, shut off the engine and remove the key. Leaving the transmission in gear with the engine off may not prevent the tractor from moving.

DISMOUNTING

Use the assist handles and steps provided. Step out of the operator's area backwards.

Do not attempt to step out of the operator's area face forward or you may fall.



MA-16856A

CAUTION! Always shift to neutral and engage park brake before getting off the tractor. If the tractor is to be left unattended lower the implement to the ground, shut off the engine and remove the key.

BALLAST (Counterweight)

CAUTION! SAFE OPERATION OF THE EQUIPMENT IS THE RESPONSIBILITY OF THE OPERATOR.

When using a front end loader exercise extreme caution. Add rear counterweight to counterbalance the weight of the loader, rear mounted equipment, a weight box, or

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FOOTBRAKES

The tractor is equipped with self-adjusting hydraulically actuated oil cooled disc brakes. The brakes are controlled by foot pedals which must be latched together for simultaneous operation to stop the tractor but can be unlatched and operated individually to assist in making sharp turns.



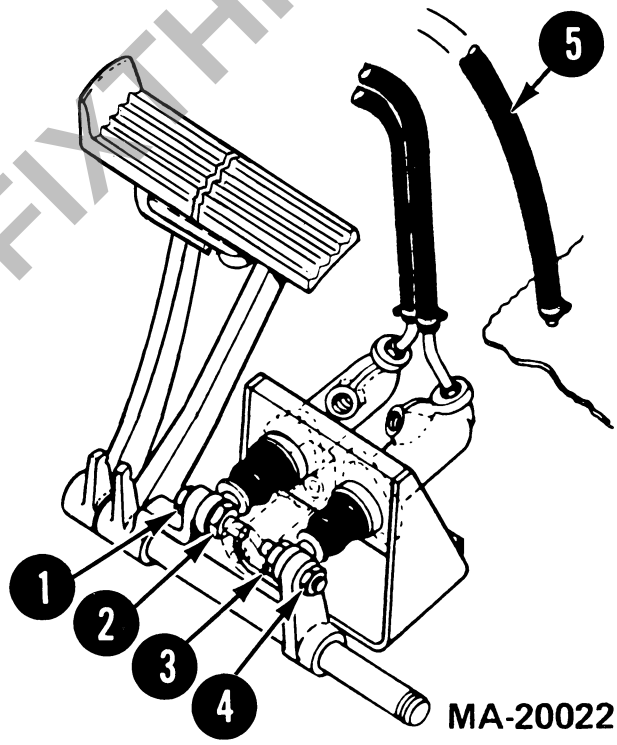
Brake Pedals

The only adjustment required will be to ensure that the pedals are at the correct working height and that the latch will easily engage.

If the hose connection from the oil cooler return to the brake reservoir is ever removed, take care that the orifice and screen inside the hose is not discarded as this orifice screens the fluid to the brakes. When installed, the screen end is located inside the rubber hose with the orifice end inside the inlet tube of the brake reservoir.

FOOT BRAKE ADJUSTMENT

Disengage the pedal latch, then loosen the right locknut and turn the eccentric pivot bolt to bring the left pedal pad to 210 mm (8.25 in.) from the footplate. Tighten the locknut. Loosen the left locknut and turn the eccentric pivot bolt until the right pedal pad is the same height as the left pedal pad and check that the brake latch will easily engage, if necessary adjusting further on the right pedal pivot bolt. Tighten the locknut when the adjustment is correct.



Brake Pedal Adjusters

1 – Right Locknut
2 – Eccentric Pivot Bolt
3 – Eccentric Pivot Bolt
4 – Left Locknut
5 – Dump Hose

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