Steiger 335
Steiger 385
Steiger 435
Steiger 485
Steiger 535
Tractors

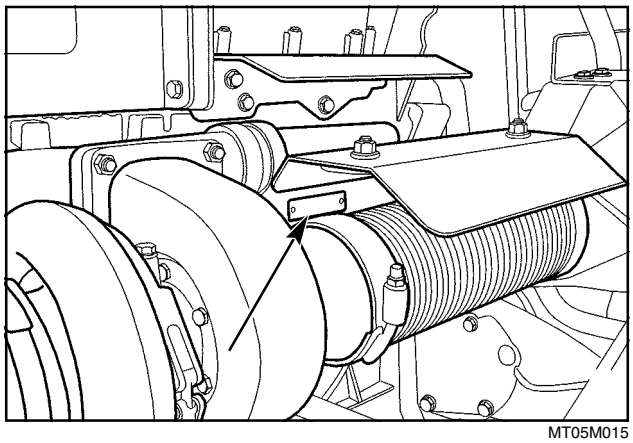
Operator's Manual

Print No. 87562869
1st edition
English 07/07

CASE IH AGRICULTURE

Engine Serial Number (385 - 435)

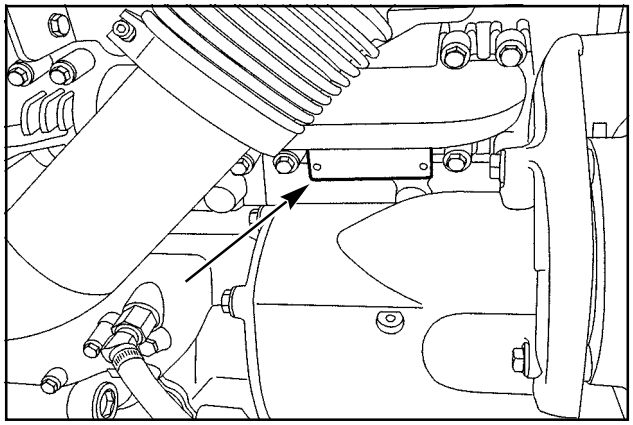
Located on the LH upper side under the heat shield.



MT05M015

Engine Serial Number (485)

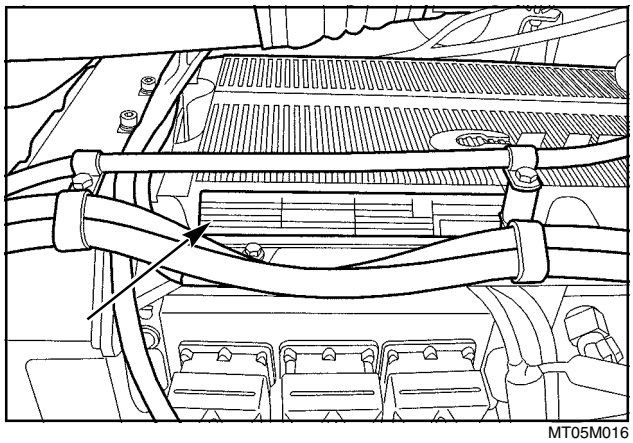
Located on the LH upper side behind compound turbo gear box.



MT07F083

Engine Serial Number (535)

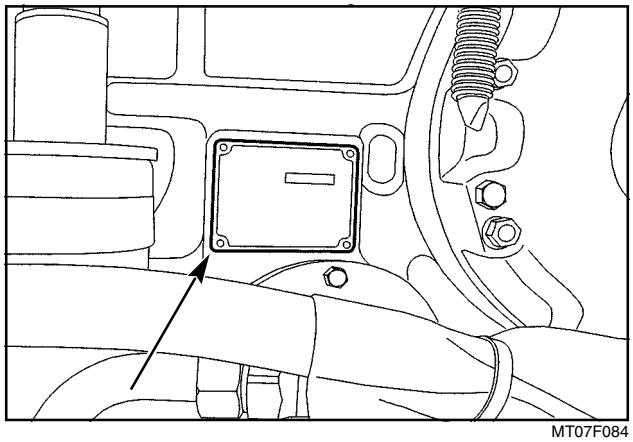
Located on the LH upper side under the heat shield.



MT05M016

Transmission Serial Number

Located on the LH rear side of the transmission.



MT07F084

⚠ Safety Rules ⚠

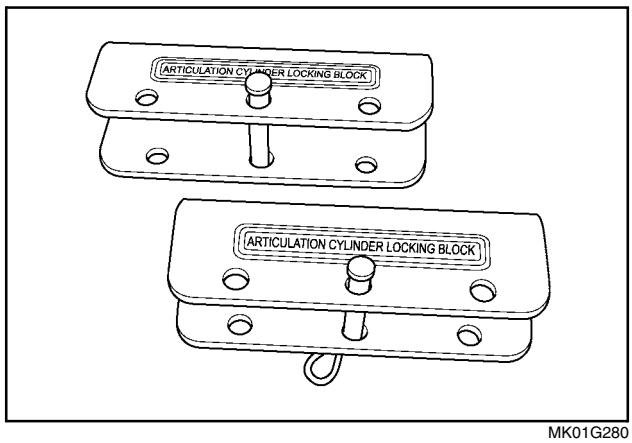
- Do not turn the steering wheel until everyone is clear of the equipment and the center hinge area. Turning the steering wheel can swing the tractor and equipment from side to side. R303A
- Always use the hand rails when mounting or dismounting from the tractor. Always face the tractor when mounting and dismounting. This will provide more secure hand and feet mobility to help prevent slipping and possible injury. R304A
- Always keep the cab windows and rear view mirrors clean to provide the best all around visibility while operating the tractor. R416
- Do not pull with elastic tow ropes. Elastic tow rope store energy. Sudden release may cause injury or death. M425
- Young children should not be permitted to operate or ride the tractor under any circumstances. M630
- Do not look directly into the High Intensity Discharge Head Lamp. Eye damage can occur. M638
- Do not tamper with the ballast on the High Intensity Discharge Head Lamp as it contains high voltage. Personal injury or death can occur. M639
- To prevent tractor movement, always apply the park brake whenever the tractor is parked with the engine running. The park brake is applied automatically when the engine is shut down. M627
- Always start the engine from the operator's seat. Never attempt to bypass start, the tractor may suddenly start and move resulting in serious or fatal injury. M787
- To avoid possible eye damage from microwave signals emitted by the radar sensor, do not look directly into the sensor face. M788
- The operator cab does not protect against inhaling harmful pesticides or chemicals. Please utilize an approved respirator or other personal protection equipment as recommended by the chemical supplier when using these materials. M792

ARTICULATION CYLINDER LOCKING BLOCKS

Steering cylinder locking blocks are supplied with the tractor. The locking blocks are installed on the rod end of the steering cylinders to hold the tractor articulation point in a rigid position. The locking blocks MUST be installed for safety when doing the following operations:

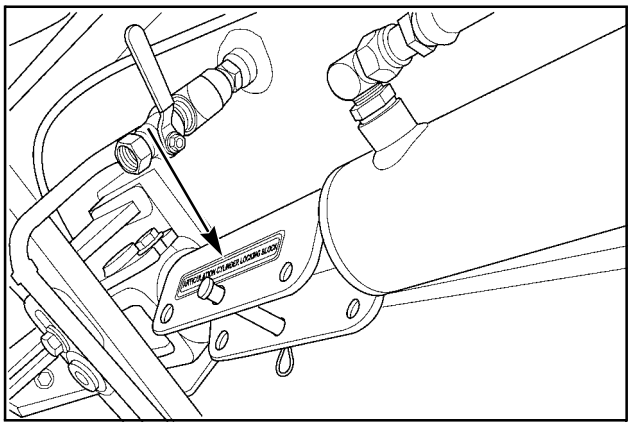
1. Before doing service work near the center of the tractor.
2. Before lifting or transporting the tractor on another vehicle.
3. Before operating stationary PTO equipment.

Make sure the locking blocks are removed and installed in the storage position before attempting to steer the tractor.



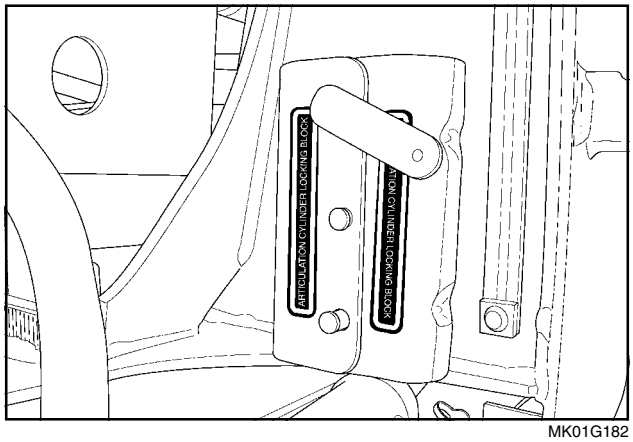
MK01G280

LOCKING BLOCKS



MK99M001

LOCKING BLOCK INSTALLED ON ROD END OF ARTICULATION STEERING CYLINDER



MK01G182

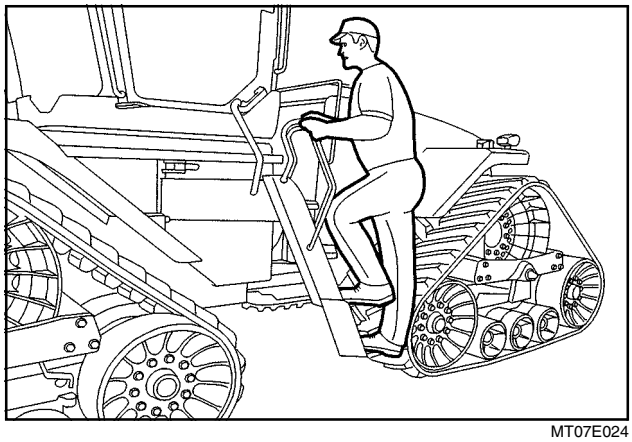
LOCKING BLOCKS STORED ON THE LOWER LH FRONT SIDE OF THE FUEL TANK

MOUNTING AND DISMOUNTING THE TRACTOR

WARNING: *Jumping on or off the machine can cause an injury. Always face the machine, use the hand rails and steps, and get on or off slowly. Maintain a three point contact to avoid falling, (both hands on rails and one foot on the step, or one hand on the hand rail and both feet on the steps).*

SM516

To avoid injury and provide more secure mobility, always face the tractor and use the hand rails and steps provided when entering or leaving the tractor cab.

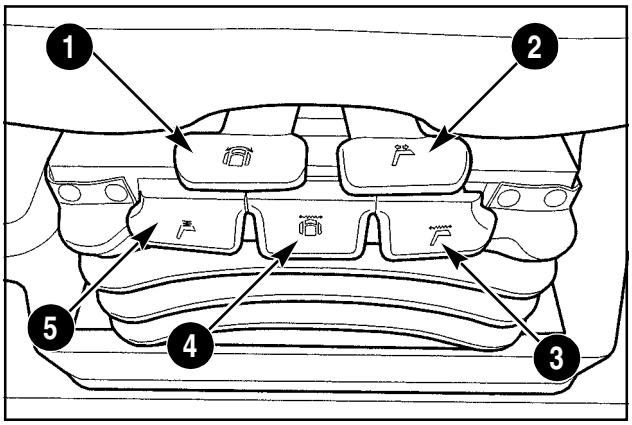


MT07E024

OPERATOR'S SEAT WITH AIR SUSPENSION

Your operator's seat is equipped with controls to adjust the seat for your personal comfort. Identify your seat and adjust the seat as explained.

Positive Response Seat



MT04M048

1. SEAT SWIVEL
2. FORE/AFT
3. FORE/AFT ISOLATOR
4. LATERAL ISOLATOR
5. RIDE FIRMNESS CONTROL

1. 

SEAT SWIVEL - The seat swivels to the right and left of center. Lift the swivel control lever UP until seat can swivel. Turn the seat to the desired position. Release the lever to lock the seat in the desired position.

2. 

FORE/AFT - The operator's seat can be adjusted forward or rearward for individual operator size. Pull UP on the lever and slide the seat to the desired position. Release the lever to lock the seat in position.

3. 

FORE/AFT ISOLATOR - The seat can float a short distance forward or rearward when the isolator lever is lowered. With the isolator lever in the UP position, the seat does not float forward or rearward. The float position absorbs shocks and reduces operator fatigue when traveling over rough terrain.

4. 

LATERAL ISOLATOR - The seat can float a short distance right or left when the isolator lever is DOWN. With the isolator lever in the UP position, the seat does not float right or left. The float (DOWN) position absorbs shocks and reduces operator fatigue when traveling over rough terrain.

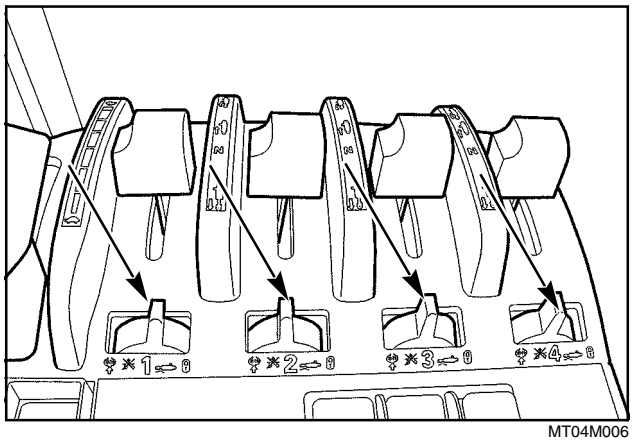
5. 

RIDE FIRMNESS CONTROL - The amount of firmness can be adjusted for personal comfort. This control is infinitely adjustable. The lever up is soft. Push the lever down to increase the firmness.

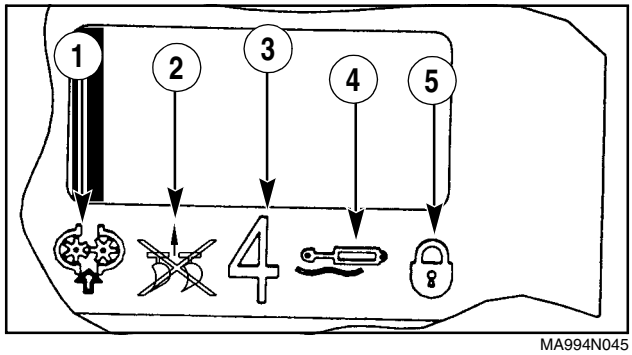
Electric Remote Valve Function Control

The levers control the function of each remote hydraulic control lever. The lever has five positions.

1. **Hydraulic Motor Position** - Sets the remote circuit for hydraulic motor use.
2. **Non-Detent Raise Position** - Used when operating non-detented equipment or attachments, e.g. a loader.
3. **Full Function Position** - Allows full function of the remote lever.
4. **Float Lock-Out Position** - Prevents the remote lever from going into float position.
5. **Lock Position** - Locks the remote lever for transport.



MT04M006



MA994N045

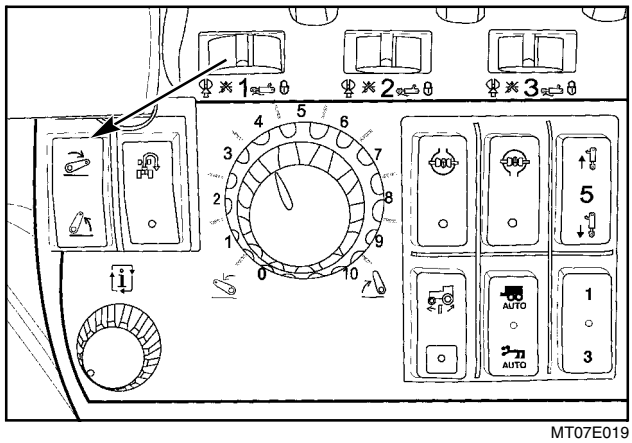
Hitch Up/Down Switch

The up/down switch raises or lowers the hitch to operator selected preset positions without changing any of the hitch adjustments.

UP - Press the switch bottom to raise the hitch to the position set by the upper limit control.

DOWN - Press the switch top to lower the hitch to the position set by the hitch position control at the speed set by the drop speed control.

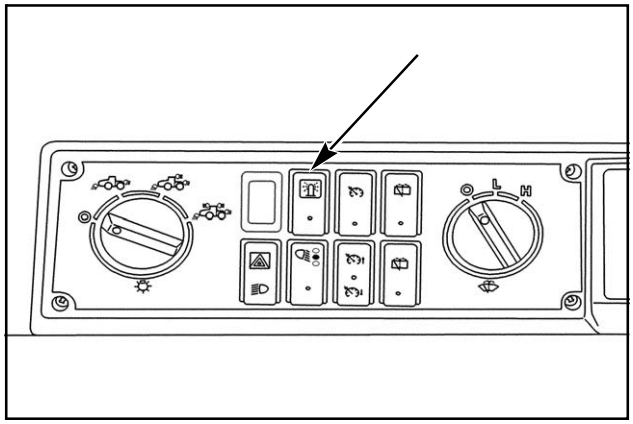
EXPRESS DOWN - Double click and hold the top of the switch momentarily to bypass the drop speed and position control settings to lower the hitch at maximum speed.



MT07E019

Strobe or Beacon Light Switch (If Equipped)

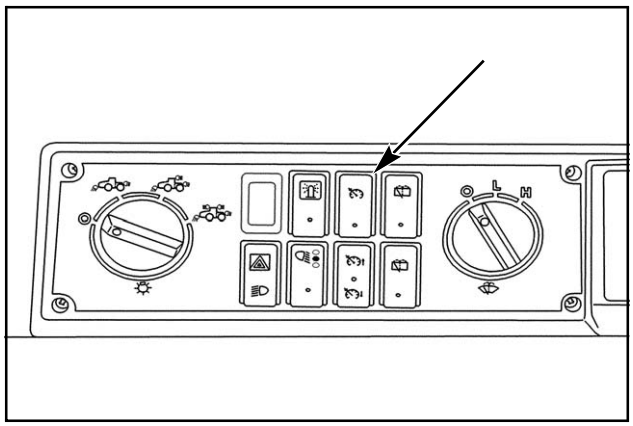
This is a two-position ON/OFF switch to control the strobe or beacon light. Press on the top of the switch to turn ON the light. Press on the bottom of the switch to turn OFF the light.



MT07E008

Engine Constant Speed Power Switch

This is a two-position ON/OFF rocker switch to control the engine constant speed feature. Press on the top of the switch to turn ON the Constant Speed feature. Press the bottom of the switch to turn OFF the Constant Speed feature. See Constant Engine Speed Operation for more details.

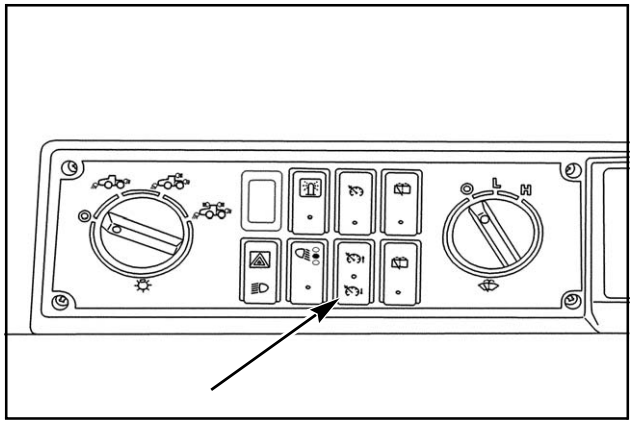


MT07E008

Engine Constant Speed Adjust Switch

This is a three-position momentary switch to set the desired maximum engine speed. Press on the TOP of the switch to INCREASE the engine speed. Press on the bottom of the switch to DECREASE engine speed.

NOTE: *Each time the switch is depressed, engine speed will increase/decrease approximately 10 rpm.*



MT07E008

The following section gives an overview and location of all the cab instrumentation. Refer to the appropriate section in this manual for further details.

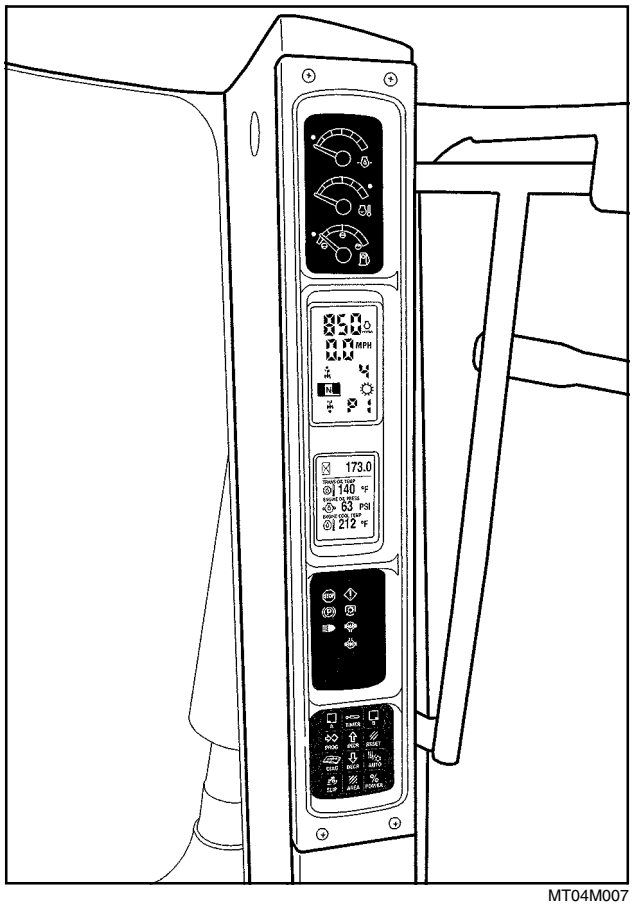
ROPS POST INSTRUMENT CLUSTER OVERVIEW

The Instrument Cluster Unit (ICU) is mounted on the front right hand cab Roll Over Protective Structure (ROPS) post. The ICU will automatically monitor various operating systems and functions on your tractor. The condition of the monitored systems is indicated by Analog Gauges, Light Emitting Diode (LED) indicator lamps and Liquid Crystal Display (LCD) text displays.

The instrument cluster displays tractor performance information and audio alarm conditions which are important to the operation of the tractor and implement system.

IMPORTANT: *The performance display functions in the instrument cluster are transferred to the AFS 200 or AFS PRO 600 display if installed on the tractor. The exception to this is the* ***SLIP%*** *and* ***SLIP Limit****. The* ***SLIP*** *information is displayed momentarily when the hitch is in the lowered position, ground speed is above 2 MPH (3.2 Km/h), and the slip limit set (momentary) switch is depressed.*

When the key switch is turned to the ON position, the tractor instrumentation will do a self check of all monitored systems. All indicator lamps and display screens will energize for 3 seconds and an audible alarm will sound for 1 second. Before starting the tractor, make sure all systems are operating. If any system is not operating, contact your dealer.



MT04M007

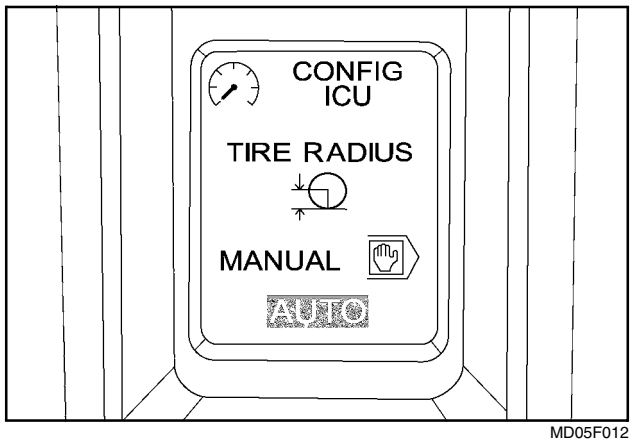
AUTO MODE

1. Lay out a level, straight-line course of 60 meters with a clearly marked start and finish line.

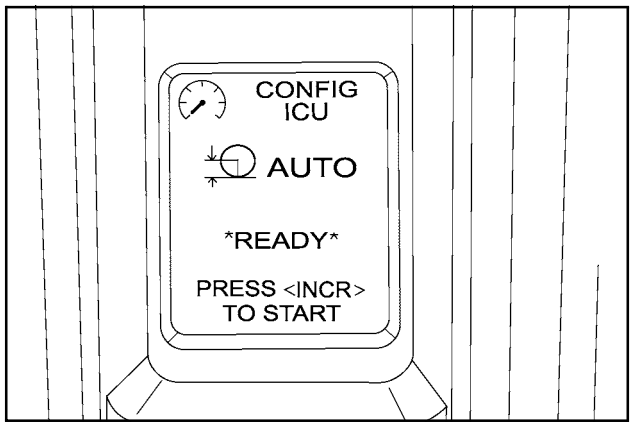
NOTE: *The tractor must maintain a steady speed above 2 mph (3.4 kph) through the 60 meter course.*

2. Park the tractor an adequate distance from the start line to achieve the speed necessary and allow time to push the correct keys.
3. Start the engine and enter the PROGRAM MODE.
4. Using the INCR or DECR keys to select **Tire Radius**.
5. Press the PROG key to display AUTO and MANUAL.
6. Use the INCR or DECR keys to select AUTO.
7. Press the PROG key to display READY.
8. Drive the tractor forward at a steady speed above 2 mph, press and release the INCR key as the tractor crosses the start line. The display will change from READY to *WORKING.
9. Press the DECR key as the tractor crosses the finish line. The ICU will stop the auto calibration and display the new rolling tire radius for 2 seconds and return to CONFIG screen.

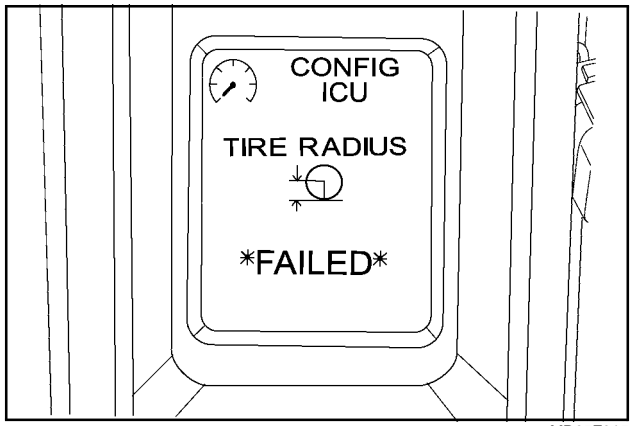
   The ICU will save the new rolling tire radius value or will display *FAILED* if tractor speed varied or was below 2 mph (3.4 kph).
10. Stop the tractor and turn the key switch OFF.



MD05F012



MD05F013



MD05F015

Display		Problem	Corrective Action
	**STEERING FAULT**	Steering controller has detected an electronic or electrical failure.	If condition persists contact your dealer.
	**AUX FAULT**	The remote hydraulics electronic controller has detected an electronic or electrical failure.	If condition persists contact your dealer.
	**INSTRUMENT FAULT**	The tractor monitor has detected an electronic or electrical failure.	If condition persists contact your dealer.
	**ENGINE FAULT**	The engine electronic controller has detected an electronic or electrical failure.	If condition persists contact your dealer.
	**TRANSMISSION SETUP**	Calibration setup programming is required on the transmission electronic controller.	Contact your dealer.
	**ARMREST SETUP**	Calibration setup programming is required on the arm rest control console electronic controller	Contact your dealer.
	**HITCH SETUP**	Calibration setup programming is required on the hitch electronic controller.	Contact your dealer.
	**AUX SETUP**	Calibration setup programming is required on the remote hydraulic electronic controller.	Contact your dealer.
	**STEERING SETUP**	Calibration setup program is required on the steering electronic controller.	Contact your dealer.
	**INSTRUMENT SETUP**	Calibration setup programming is required on the tractor monitor.	Contact your dealer.
	**ENGINE SETUP**	Calibration setup programming is required on the engine electronic controller.	Contact your dealer.
	**AUX NEUTRAL**	The remote hydraulic control lever(s) were not in neutral on startup.	Move lever(s) back to neutral.
	**TURN PTO OFF**	The power take off switch was not in the off position on startup.	Move power take off switch to the OFF position.
	**HITCH CAPTURE**	The hitch position control did not match the actual hitch position on startup.	Move the hitch position control to match the actual hitch position.

Implement Width Setup Information

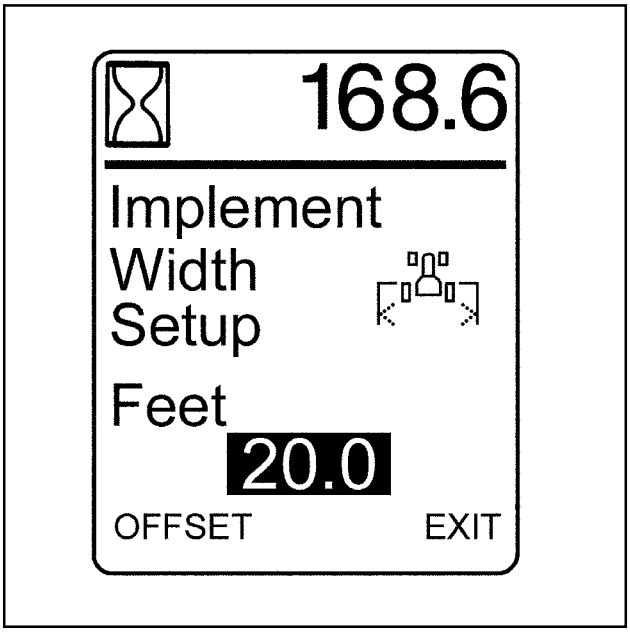
This screen displays the implement width currently programmed into the monitor in feet or meters.

When the Area screen is displayed, pressing the AREA button for two seconds will cause the implement Width Setup screen to be displayed.

ADJUSTING IMPLEMENT WIDTH: With the IMPLEMENT WIDTH SETUP screen displayed, pressing the INCR or DECR button will change the feet (meters) currently programmed into the monitor. Pressing and releasing the INCR or DECR button will increase or decrease the measurement one digit at a time. Pressing and holding the INCR or DECR button will change the digit at a rate of 3.2 feet (meters) per second.

AREA EDIT: When the desired implement width is obtained, pressing the “A” button will enter the change and cause the Area Edit screen to be displayed.

RETURNING TO AREA SCREEN: When the desired implement width is obtained, pressing the “B” button will enter the change and return to the Area screen.



MT07E041

Area Edit

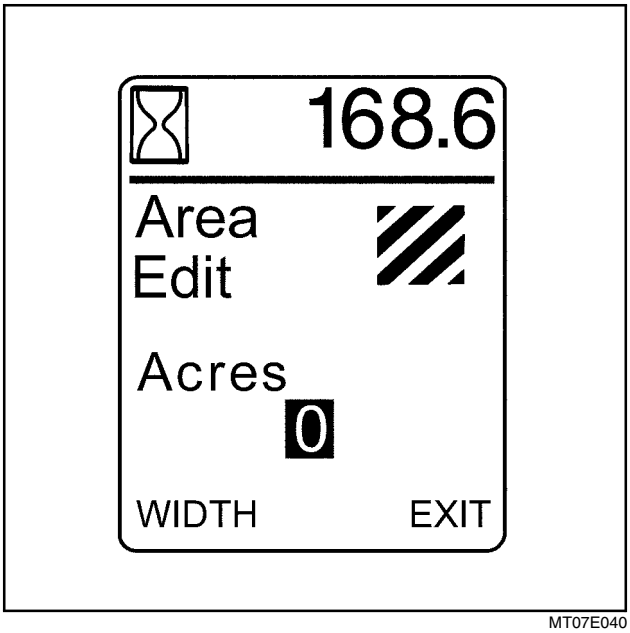
This screen displays the Area Edit screen which allows the total accumulated acres (hectares) to be increased or decreased, permitting an initial offset or correction to be entered.

When the Implement Width Setup screen is displayed, pressing the “A” button will cause the Area Edit screen to be displayed.

RESETTING ACCUMULATED AREA: With the Area Edit screen displayed, pressing the INCR or DECR button will change the acres (hectares) currently accumulated into the monitor. Pressing and releasing the INCR or DECR button will increase or decrease the measurement one digit at a time. Pressing and holding the INCR or DECR button will change the digit at a rate of 3.2 acres (hectares) per second.

RETURNING TO IMPLEMENT WIDTH SETUP: When the desired accumulated area is obtained, pressing the “A” button will enter the change and return to the implement Width Setup screen.

RETURNING TO AREA SCREEN: When the desired accumulated area is obtained, pressing the “B” button will enter the change and return to the Area screen.

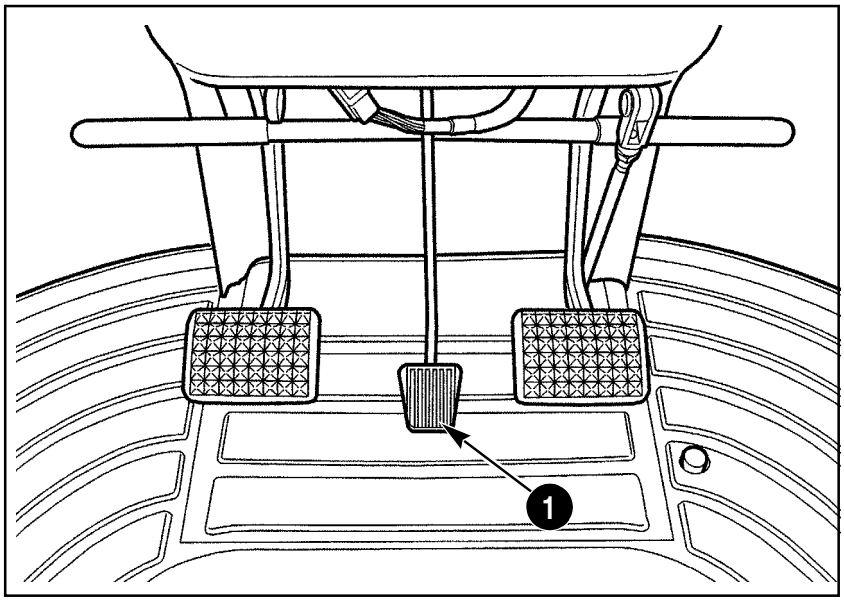


MT07E040

STEERING COLUMN ADJUSTMENT

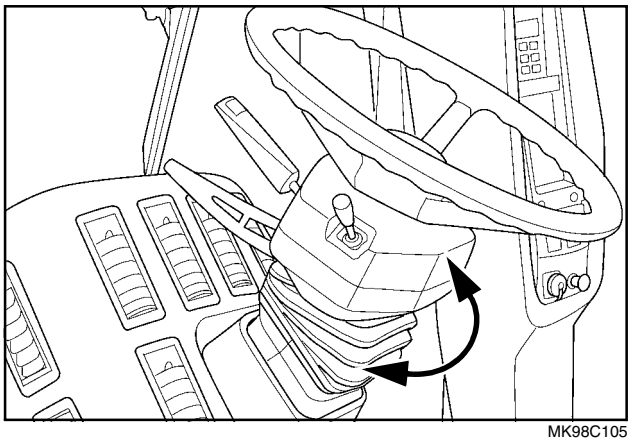
WARNING: *Never adjust the steering column while driving. Adjusting the steering column while driving can cause loss of control resulting in injury or death.*

SM517



MT05M011

1. **STEERING COLUMN RELEASE PEDAL** - To tilt or telescope the steering column, push the pedal (1) down, release the pedal to lock the column in the desired position.

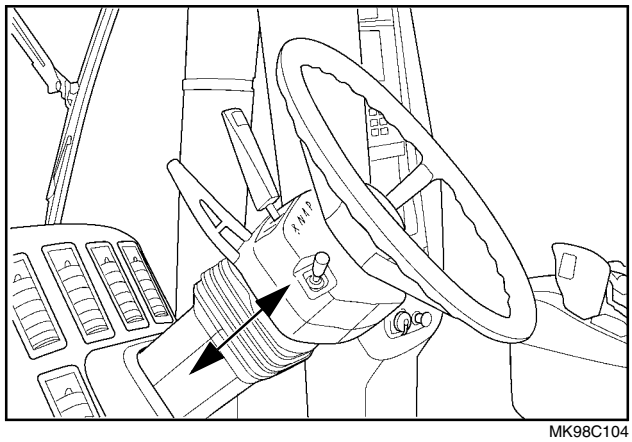


MK98C105

COLUMN TILT ADJUSTMENT

The steering column can be adjusted up or down into eleven different positions.

TO ADJUST: Push the pedal (1) down. Move column up (shown) or down to the required position. Release the pedal to lock the column in position.



MK98C104

COLUMN TELESCOPIC ADJUSTMENT

The steering column can be moved in or out in any one of the tilt positions.

TO ADJUST: Push the pedal (1) COMPLETELY down. Pull or push the column in or out to the required position. Release the pedal to lock the column in position.

TOWING THE TRACTOR

WARNING: *Do not pull with elastic tow ropes. Elastic tow rope stores energy. Sudden release may cause injury or death.*

M425

Towing the tractor is not recommended and must be avoided whenever possible. The tractor is equipped with a spring applied park brake that is applied automatically whenever the engine is shut off or the hydraulic system fails.

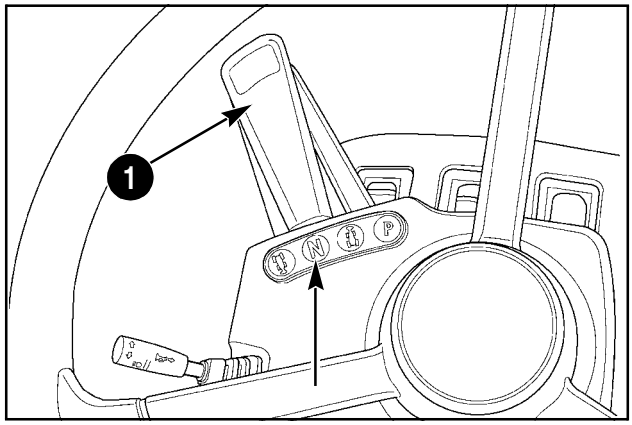
The park brake MUST be released before towing to prevent damage. If the tractor requires service that cannot be done in the field, the tractor must be transported on another vehicle.

If the tractor must be towed a short distance to a safe area, or for transporting, use the following procedures.

Engine Running - Tow Procedure

If the engine is not running the park brake must be manually released.

1. Use a rigid tow bar and safety chain connected to the drawbar.
2. If equipped, disengage the differential locks.
3. Put the transmission control lever (1) in the NEUTRAL position.
4. Turn the key switch to the ON position.

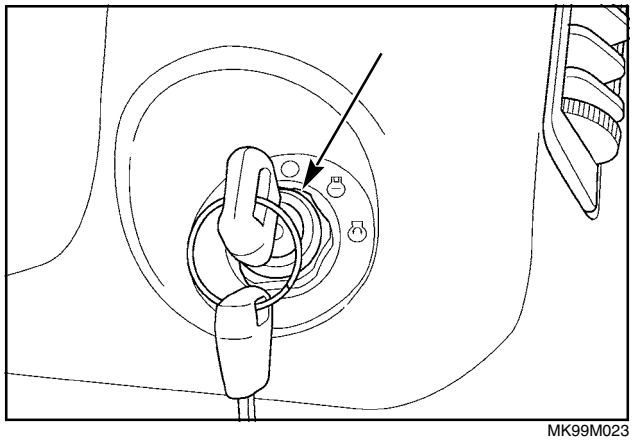


MK99N205

Engine Not Running - Tow Procedure

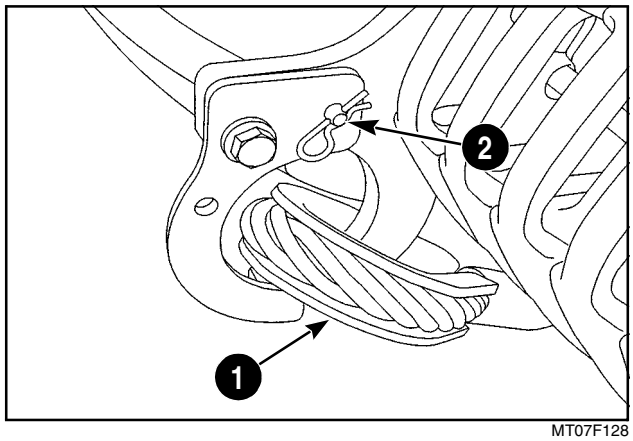
If the engine is not running the park brake must be manually released.

1. Use a rigid tow bar and safety chain connected to the drawbar.
2. If equipped, disengage the differential locks.
3. Put the transmission control lever (1) in the NEUTRAL position.
4. Turn the key switch to the ON position.



MK99M023

5. **Tow Cable (Optional 385, 435, 485 and 535)** If equipped with the tow cable (1) option, remove the retainer pin (2) to release the cable from the storage bracket.



MT07F128

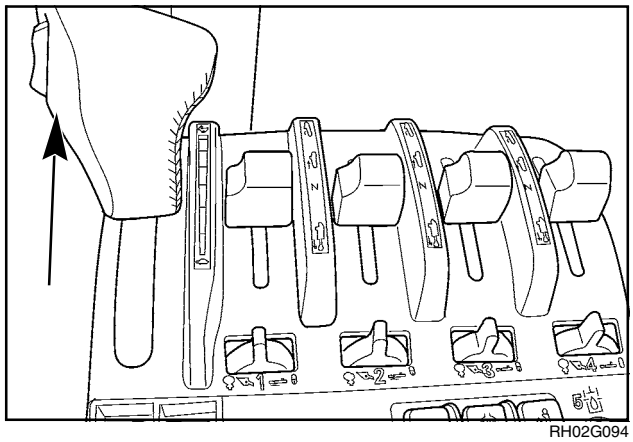
Turning Auto Field Operation ON:

Auto Field Operation is intended primarily for tillage applications or where maintaining engine speed/torque under changing load conditions is accomplished by changing transmission speed.

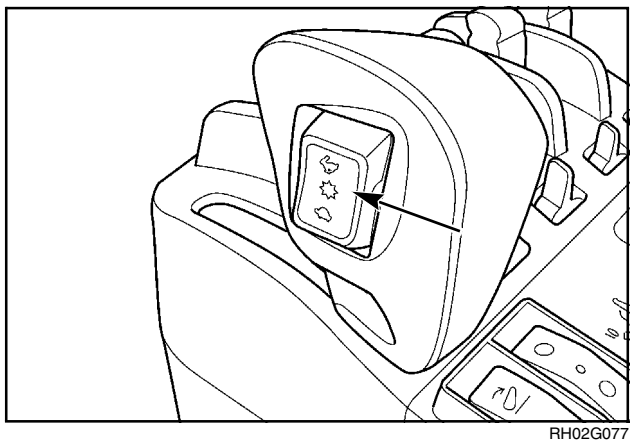
Automatic gear selection depends on transmission output shaft speed, current gear engaged, and the engine torque (electronically controlled engines only) required to maintain tractor performance under varying load conditions. These shift characteristics called “Droop” are preset at the factory. If required, these shift characteristics can be reset by referring to Resetting Droop in this section.

1. Move the throttle lever to the FULL throttle position.

NOTE: *Leave the throttle in the FULL throttle position when operating in AFO.*


RH02G094

2. Use the gear selection switch and find the desired maximum gear for the field work being performed.

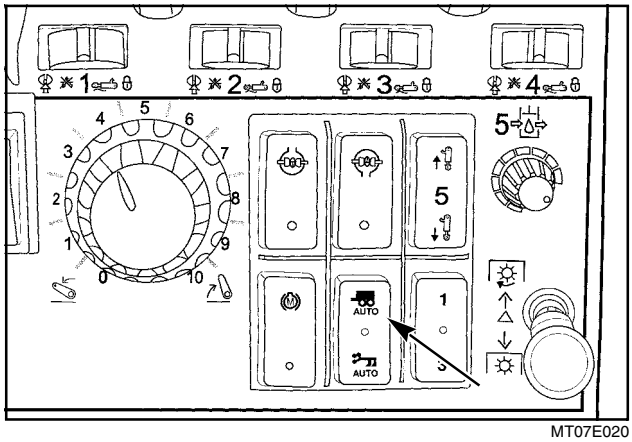

RH02G077

3. Press the bottom of the Autoshift switch to turn Auto Field Operation ON.

Automatic shift range is now from the active gear when the switch is turned ON to any lower gear available.

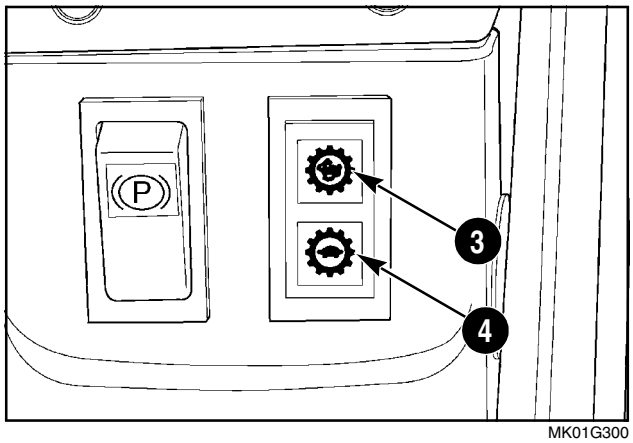
NOTE: *If current gear selected is higher than 12th when Auto Field Operation is turned ON, automatic shift range will default to 12th gear as the maximum gear to any lower gear available.*

As load increases due to changing field conditions, the tractor downshifts the transmission automatically to maintain engine RPM. As load decreases, the tractor upshifts as required within the range, but to no gear higher than the active gear when Auto Field Operation was turned ON (12th gear if Auto Field Operation was turned on in 13th gear or above).



MT07E020

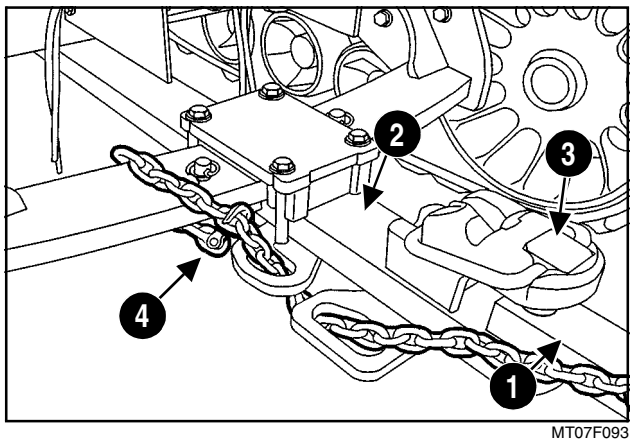
An indicator lamp located on the ROPS instrument panel will illuminate when HI or LO range is selected. The upper lamp icon (3) will indicate HI range operation. The lower lamp icon (4) will indicate LO range operation.



MK01G300

Connecting Implement To Drawbar

To limit stress on the tractor and the implement, the implement must be connected correctly to the tractor drawbar. If the implement is not connected correctly, the tractor will be difficult to operate and the implement will not perform properly.



MT07F093

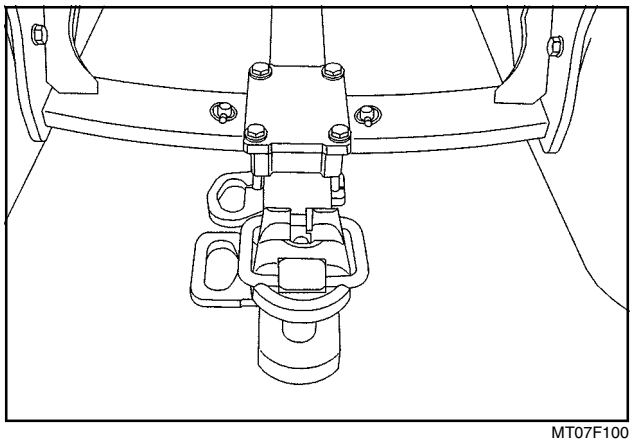
- Connect towed implements (1) to the drawbar (2) only, never to the three point hitch.
- Use the tractor hitch pin (3) to connect the implement to the drawbar. Make sure the pin is held securely in place with a lock pin.
- When working with the drawbar, raise the three point hitch as high as possible, to prevent interference between the lower links and the implement.
- When working with PTO, do the following:

    A. Lock the drawbar in the center position of the drawbar support with the drawbar retainer bolts and nuts.

    B. Install the safety chain (4), if equipped, as described in the Safety Section of this manual.

Drawbar Load Limitations

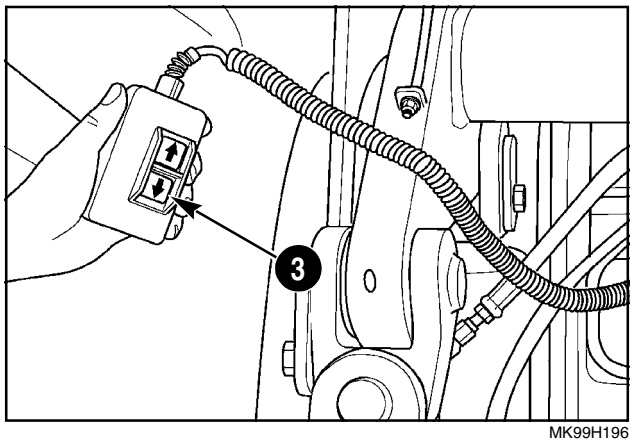
Heavy equipment can place excessive loads on the drawbar. Load is greatly increased by speed and uneven terrain. The maximum vertical load on the standard drawbar, must not exceed 5300 lb. (2404 Kg) for 335 models or 6000 lb. (2722 Kg) for 385, 435, 485 and 535 tractors when operating in the retracted position.


MT07F100

NOTE: *An optional 11,000 lb. (4983 Kg) Heavy Duty Drawbar is recommended for heavier drawbar loads or implements with upward (negative) drawbar loads. See Heavy Duty Drawbar for additional information.*

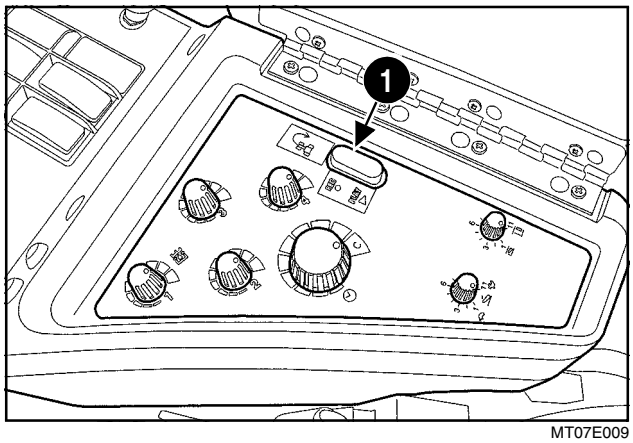
IMPORTANT: *When towing equipment on a highway, always use a safety chain as an auxiliary connection between the tractor and towed implement. See Safety Chain.*

5. Push the BOTTOM switch button (3) to LOWER the hitch.
6. When the switch buttons are released, the hitch will stop and stay at the height selected until the hitch controls inside the cab are used to operate the hitch.
7. If both switch buttons are pushed at the same time the hitch will stop. When the buttons are released, the system will reset in approximately one second and the switch can be used in the normal manner.
8. After all connections and adjustments have been made, shut off the engine, disconnect the remote switch from the rear outlet. Store the switch in the cab.
9. The hitch system must be enabled with the HITCH POSITION CONTROL after each use of the remote switch. Refer to Enabling the Hitch System in this section.



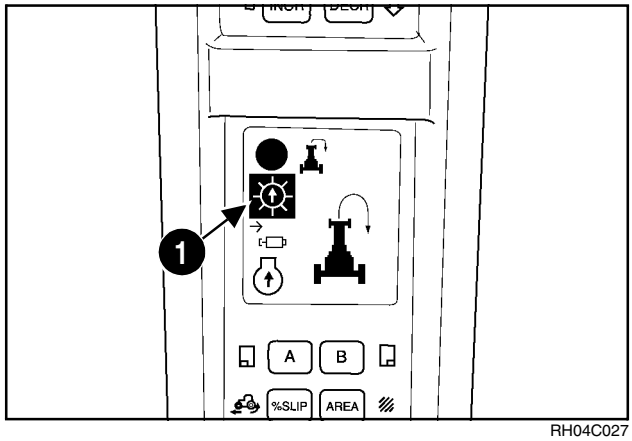
MK99H196

3. Press the record switch (1) to save the recording.



MT07E009

4. Selected function icons appear in the square (1). When the next function is selected, the prior selected function icon is moved under the square. Shown is the transmission up shift in the square with cylinder retract and engine rpm up below. See display icon chart for icon descriptions.



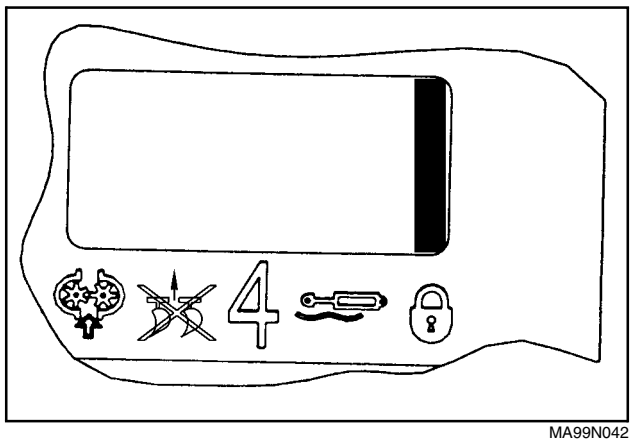
RH04C027

Display Icons

Icon Graphic	Icon Description	Icon Graphic	Icon Description
	Electronic End of Row Symbol. Displays in screen top center when system is active.		Hitch lower.
	Record - On steady in recording mode, blinks when in pause mode.		Transmission up - shift.
	Play - On steady in playback mode, blinks when in pause mode.		Transmission down - shift.
1	Program selection one.		Remote cylinder extend.

Neutral Lock Position

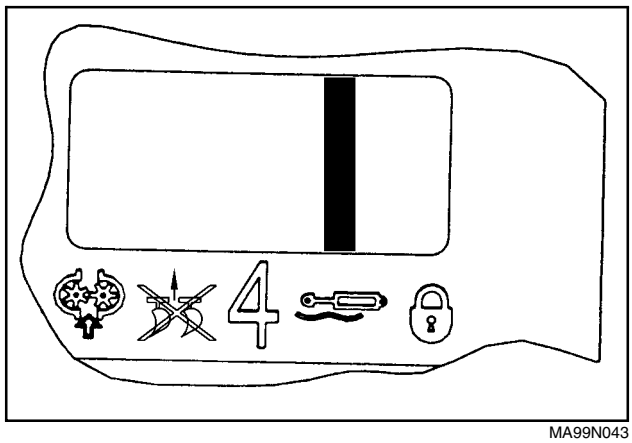
The remote hydraulic control levers can be locked in the neutral position to prevent moving the remote lever during transport. This can be done by moving the remote control levers to the neutral position and rotating the remote function control to the right locked position. This must be done for each hydraulic control lever that you intend to be locked out.



MA99N042

No Float Position

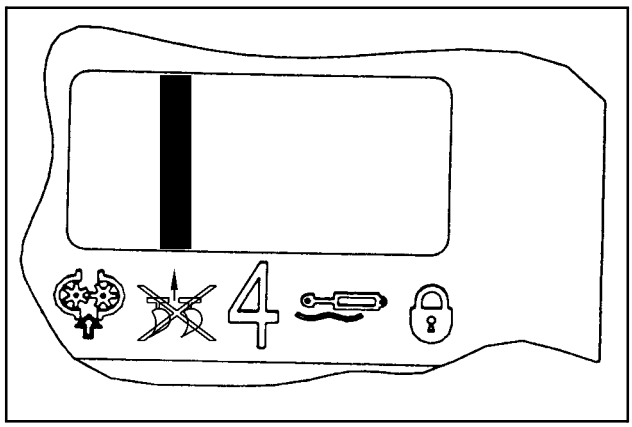
To operate in a “no float” position, rotate the remote function control to float lockout position. Now, the control lever cannot be moved into the “float” position.



MA99N043

Non-Detented Position (If Equipped)

When operating implements or attachments which require a non-detented raise hydraulic function, the remote function control MUST be rotated to the non-detent position. This prevents the remote lever from moving to the rearward (raise) detent position.

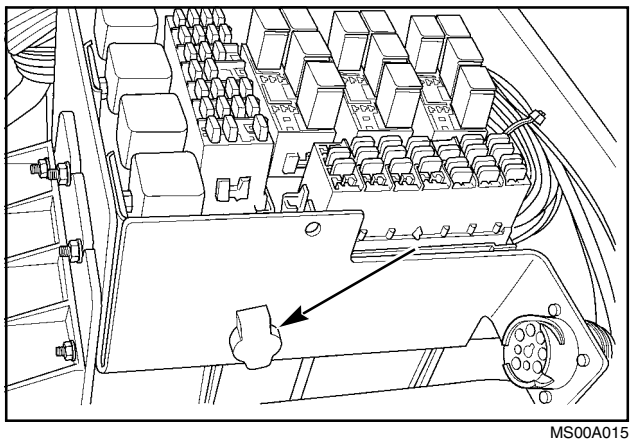


MA99N044

WARNING: *Certain implements and attachments require a non-detented remote function control for proper or improved operation. Be sure to move the remote function control to the non-detent symbol position for these situations. This will prevent the remote control lever from going into a timed raise detent. A timed raise detent will continue hydraulic operation for a period of time after remote lever movement, which may cause unwanted motion for some implements or attachments which may result in injury or death.* M0629

True Ground Speed Sensor Connector

One radar sensor connector is located inside the electronics compartment for monitors requiring the ground speed input from the True Ground Speed Sensor (if equipped). An adapter harness (P/N 324847A) is available from your dealer to convert an existing monitor ground speed connector to this new connector.



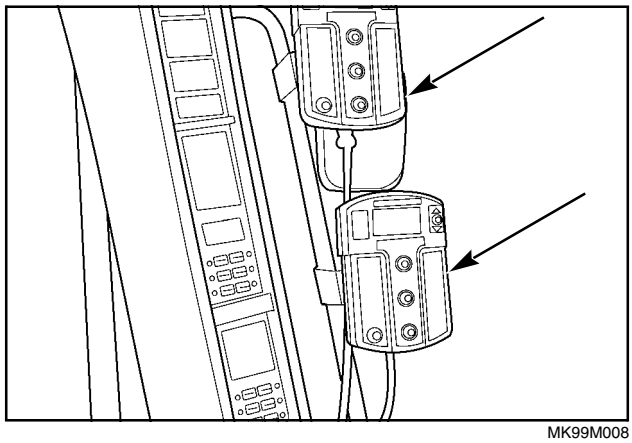
MS00A015

Monitor Mounting

Monitor mounting brackets are available for the installation of various monitors. In addition to the AFS monitor (if equipped), monitor mounts are available for three different mounting locations as follows:

1. LH side of RH A-Post
2. RH side of RH A-Post
3. Service Window

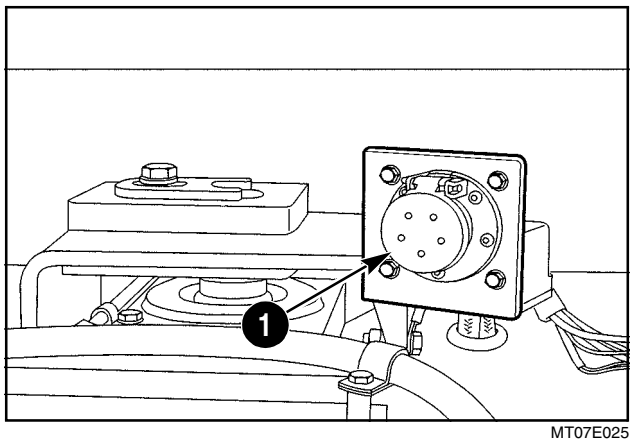
See your dealer for more information.



MK99M008

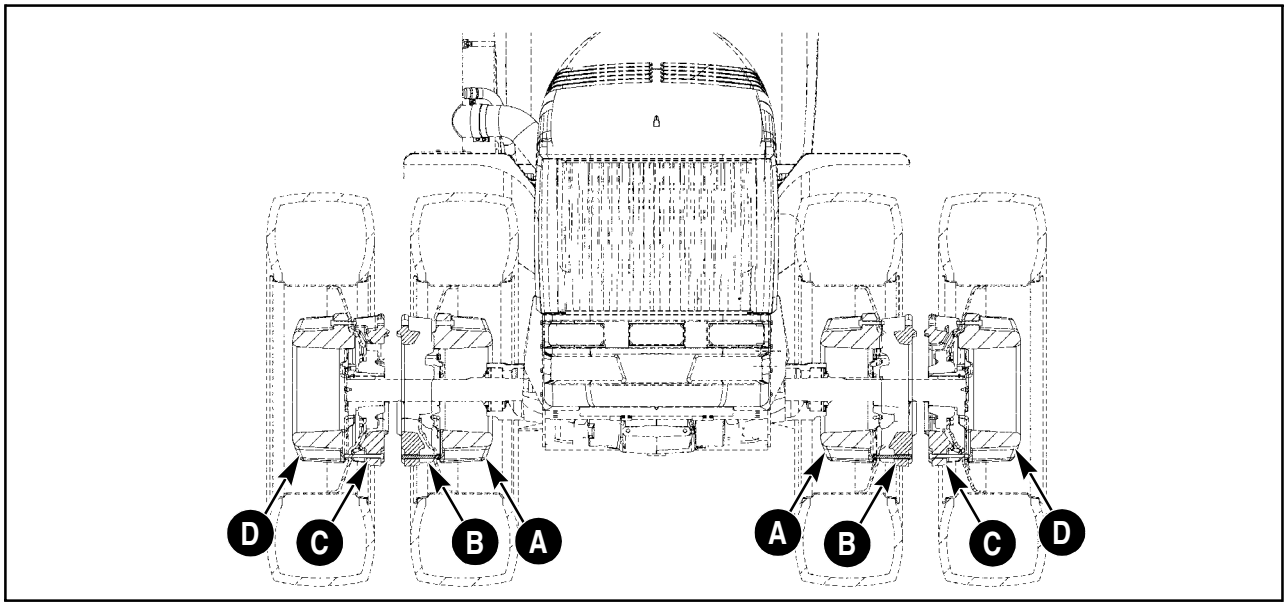
ISO 11783 Implement Connector System (If Equipped)

When a tractor is shipped from the factory as ISO-READY, the following components will be installed: wiring harness, ISO receptacle (1) and mounting brackets for ISO display. The additional required components can be ordered from your dealer.



MT07E025

WHEEL WEIGHTS



MA00A012

When operating in the Auto mode it will be displayed on the programmable display screen in place of the PTO display. The hour meter in the bottom half of the display is visible at all times.

Cast wheel weights are recommended in place of fluid filled tires. Cast wheel weights will allow the tire to flex with the contour of the ground increasing tire contact area, reducing compaction and providing a smoother ride. Cast wheel weights will not increase rolling resistance due to internal friction (as fluid will), this will increase the efficiency of your tractor. Wheel weights are available in 227 kg (500 lb.) and 454 kg (1000 lb.) weights.

Several points should be noted when installing and using wheel weights (see diagram):

1. 500 lb. (227 kg) weights can be assembled to either side of the wheel (locations -A through location - D) or on top of another 500 lb. (227 kg) wheel weight. A maximum of two - 500 lb. (227 kg) weights can be bolted together on the same side of the wheel.
2. Always assemble wheel weight mass as close to the tractor frame as possible. Fill location A first, B second, C third and D last.
3. Bolts for mounting 500 lb. (227 kg) wheel weights must pass through the hole in the weight first, wheel second except when a 500 lb. (227 kg) weight is mounted opposite another 500 lb. (227 kg) weight, then reverse the direction of the bolts to allow re-torque of the nuts.
4. 1000 lb. (454 kg) wheel weights assemble only to the concave side of the wheel.
5. Bolts for mounting 1000 lb. (454 kg) wheel weights must pass through the rim first, weight second to allow re-torque of the nuts.
6. Maintain a minimum of 50 mm (2 inches) clearance between wheel weight and tractor components.

NOTE: *1000 lb. (454 kg) weights cannot be used on the inside of inner wheel (location A) set for 30 inch (762 mm) tread setting.*

IMPORTANT: *The maximum weight per wheel is 1500 lb. (680 Kg). Never exceed the maximum recommended operating weight for your tractor.*

WHEEL WEIGHT BOLT TORQUE

M16 Grade 10.9 Bolts/Nuts ..... 270 to 350 Nm (200-260 ft. lb.)

NOTE: *Lubricate bolt threads lightly with SAE 10W-30 oil.*

IMPORTANT: *After initial wheel weight installation, drive the tractor slowly in reverse a minimum of 100 ft. (305 Km) while using several LIGHT brake applications. Re-torque bolts to specifications. Recheck the bolt torque every 10 hours thereafter until the bolt torque stabilizes.*

Dual Hub Wheel Removal (385, 425, 485 and 535 option)

The dual hub with 76 x 50-32 tire can be installed in one position on the axle. The procedure for removing the wheel and tire are as follows:

1. Park the tractor on a solid, level surface so the axle keyway is on top. Lift the tractor until the wheels clears the ground. Put supports under the axle or frame.

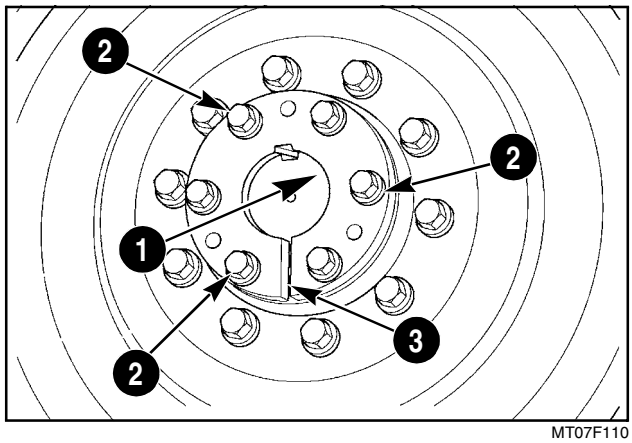
> **WARNING:** *Using a single point jack under the center of the axle housing can cause the axle housing to break and the tractor to fall. Failure to comply may result in machine damage, death or serious injury.***
>
> M1217

2. Remove all paint, dirt and rust from the axle.

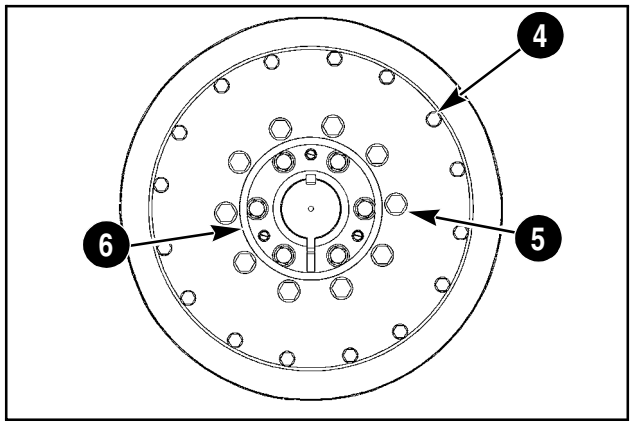
NOTE: *Put the wheel in a sling support to prevent the wheel from tipping.*

3. Remove the external snap ring from the axle. The snap ring is accessible inside the cavity (1) in the hub bushing.
4. Loosen three alternate bushing bolts (2) 6 to 7 turns (6.4 mm) and remove the three remaining bolts.
5. Clean the bolt threads and the threads in the jack holes. Oil both the jack hole threads and the bolt threads.
6. Install three of the bushing bolts into the threaded jack holes. Tighten the three bolts alternately and evenly in small increments to break the bushing loose from the hub.
7. Install a wedge in the slot (3) of the bushing and put only enough force on the wedge so you can slide the bushing on the axle.
8. Remove the outer disc mounting bolts (4), remove the disc (5) hub (6) assembly.
9. Remove the inner wheel mounting bolts (7) and remove the wheel from the inner hub.

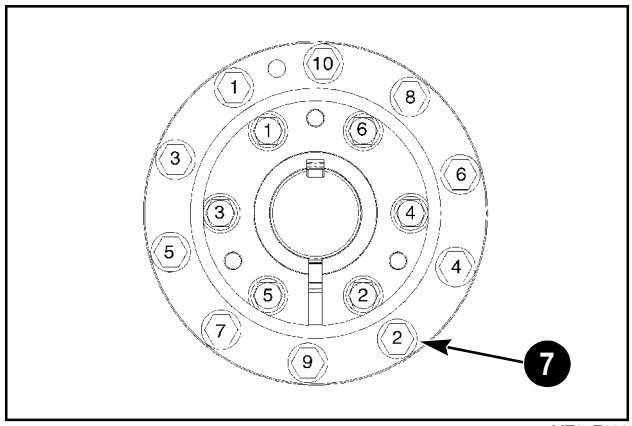
NOTE: *Do not loosen or move the inner hub. The position set when the wheel was installed is critical for tire clearance and installing the outer hub.*



MT07F110

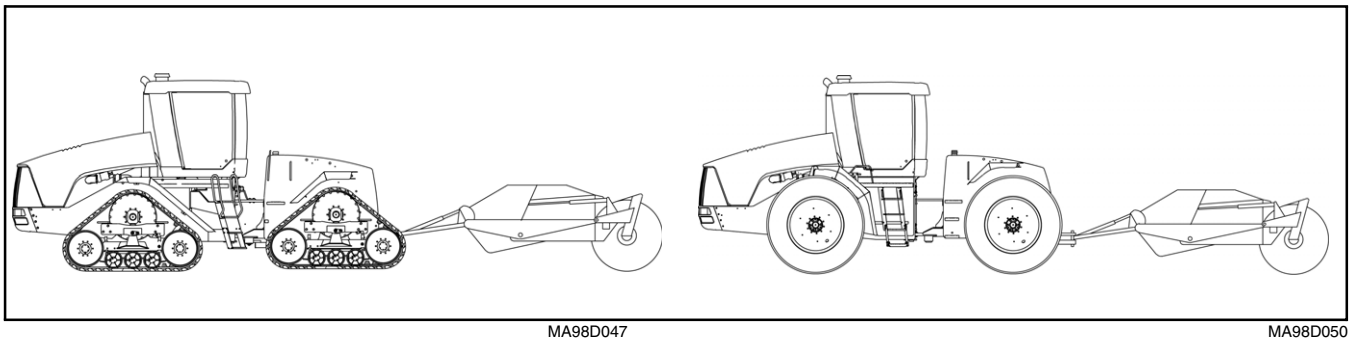


MT07f112



MT07F106

SCRAPER OPERATING PROCEDURES



MA98D047 MA98D050

Steiger Series wheel tractors used in drawbar supported scraper operations must have all rear ballast removed. Use front end weights as required to achieve the recommended 65-35 split. Additional ballast is not recommended for QUADTRAC tractors.

NOTE: *Liquid ballast in tires is NOT recommended for Steiger Series tractors.*

Tractors used in scraper applications MUST be equipped with front and rear differential locks. Both differential locks must be engaged during the scraper loading cycle. Disengage the diff locks BEFORE turning or transporting.

In heavy duty scraper operations always start in 2nd gear.

Load scrapers in 4th, 5th or 6th gear only. Maintain rated engine operating speed during loading by controlling the depth of cut. Throttle back to 1800 RPM or less BEFORE downshifting from transport speed or descending steep grades to prevent engine overspeed.

When making multiple passes through the same cut be sure the tractor wheels (tracks) are always within the cut.

To prevent tractor damage in short turning operations, always watch for possible rear wheel or track interference with the scraper tongue.

Scraper Tractor Operation Guidelines

The following guidelines must be observed for scraper tractors with factory equipped scraper drawbars. All guidelines must be observed, not one or the other. Violation of these guidelines may void the tractor warranty.

Guidelines:

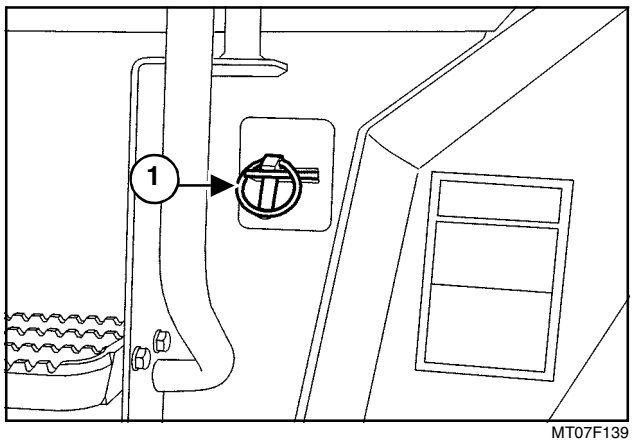
Vertical Drawbar Load (Max) ..... 20,000 lb. (9060 Kg)
Scraper Size (Max) ..... 18 cu. yards (13.8 cu. meters)
Number Scrapers (Max) 2
Cutting Width for QT (Min) ..... 10.5 ft (3.2 meters)

IMPORTANT: *Soil density must be considered when filling scrapers to avoid exceeding the maximum drawbar vertical load.*

Access To Batteries And Hydraulic Oil Filter

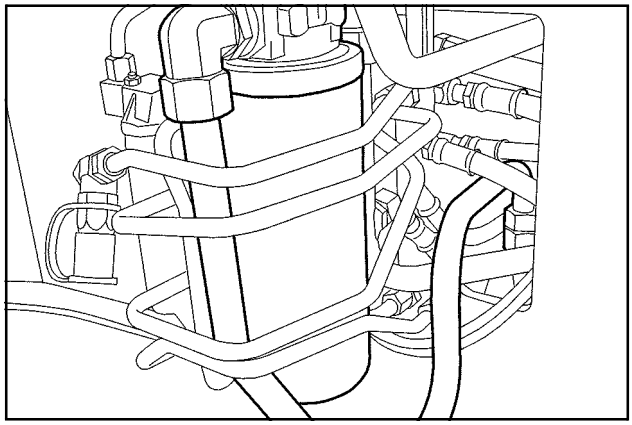
The batteries and axle lube oil filter are located in a compartment on the RH side of the tractor. To open the compartment, remove the retaining pin (1) or lock and pull the door open.

NOTE: *To lock the battery compartment door a padlock may be used in place of the pin (1).*



MT07F139

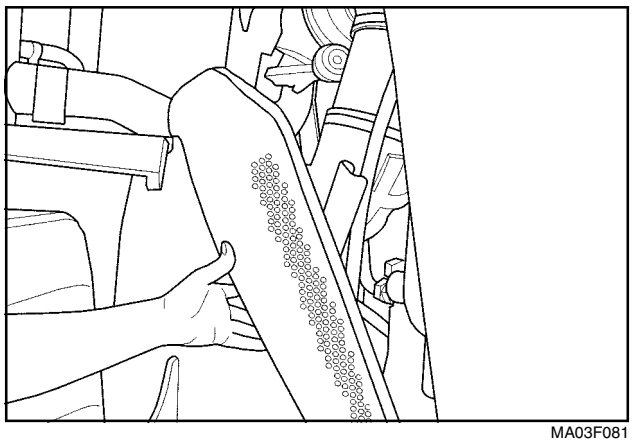
Swing the door rearward to the full open position to service the batteries, hydraulic oil filter and window washer reservoir.


MT05M133

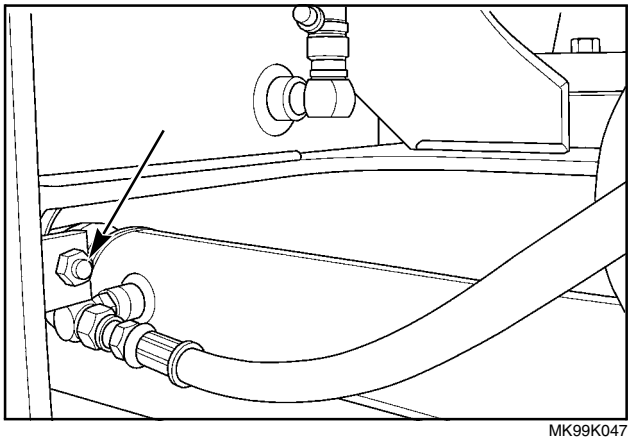
Engine Trash Shields (If Equipped)

The RH side trash shield must be removed to service the engine.

To remove the shield, open the hood, pull outwards on the screen and lift upwards.

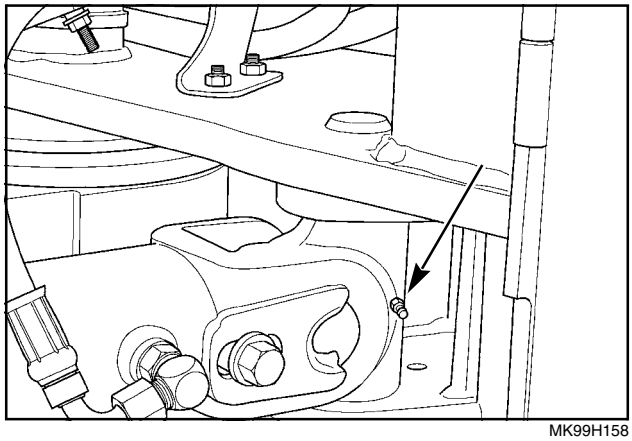

MA03F081

50 HOUR MAINTENANCE



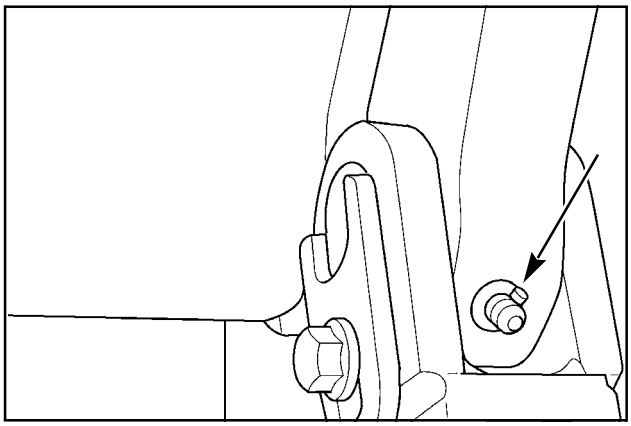
MK99K047

ARTICULATION CYLINDER-REAR (1 EACH SIDE)



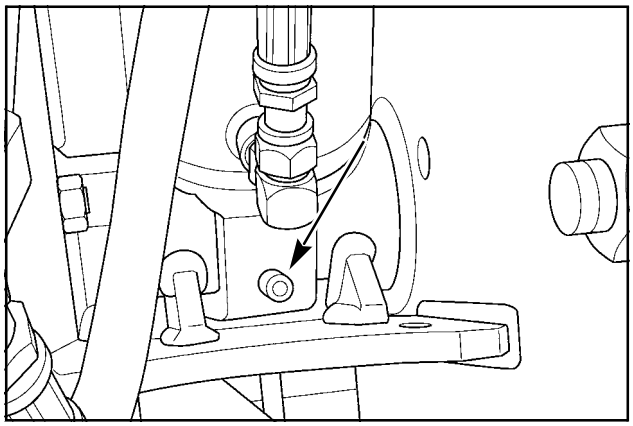
MK99H158

ARTICULATION CYLINDER - FRONT (1 EACH SIDE)



MK99K049

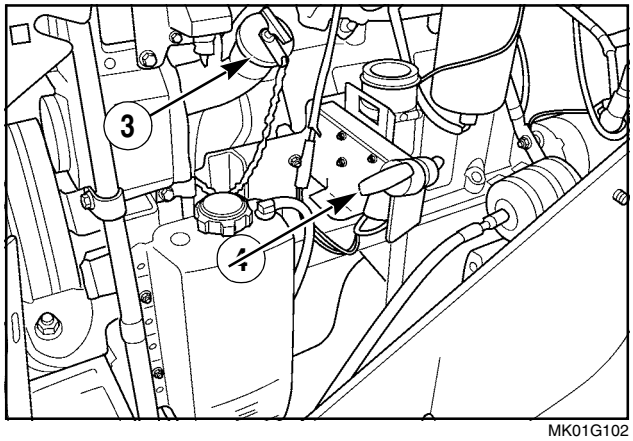
HITCH UPPER CYLINDER PIN (1 EACH SIDE)



MK99K043

HITCH LOWER CYLINDER PIN (1 EACH SIDE)

500 HOUR MAINTENANCE



MK01G102

535

Engine Fuel System

WARNING: *Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury.*
To Prevent Personal Injury:
Relieve all pressure, before disconnecting fluid lines.
Before applying pressure, make sure all connections are tight and components are in good condition.
Never use your hand to check for suspected leaks under pressure.
Use a piece of cardboard or wood for this purpose.
If injured by leaking fluid, see your doctor immediately. M149B

The fuel system consists of a fuel tank, fuel filters, fuel cooler and fuel injection parts. To prevent dirt or water from damaging the fuel injection parts, use clean fuel, keep the fuel tank full, clean the fuel tank water trap at regular intervals and replace the filters.

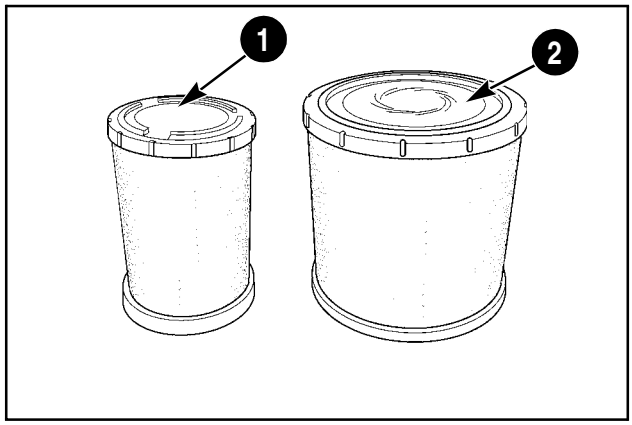
1500 HOUR MAINTENANCE

Air Filter

Your tractor is equipped with a two-stage air filter system consisting of a primary filter and a secondary filter.

The primary filter is a high capacity filter designed to provide optimum protection to the engine. The primary filter can be cleaned as required between filter changes. See Air Filter Service for more information.

The secondary filter gives extra protection to the engine if there is damage to the primary filter. The secondary filter cannot be cleaned. Replace the filter if the filter has damage or is dirty.

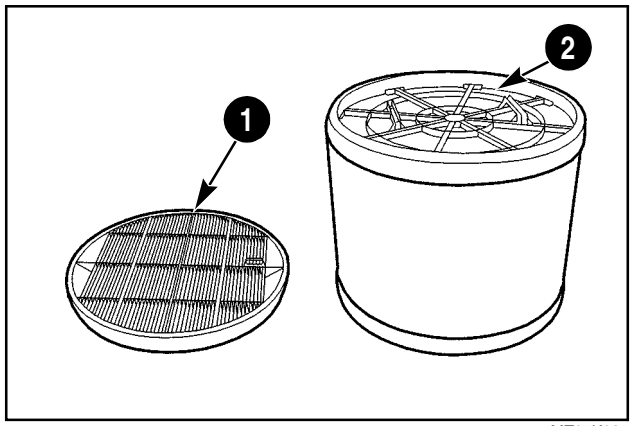


MK99K083

335 Only

1. SECONDARY 2. PRIMARY

NOTE: *Washing air filters is NOT recommended. The primary filter must be replaced after four cleanings.*



MT05K087

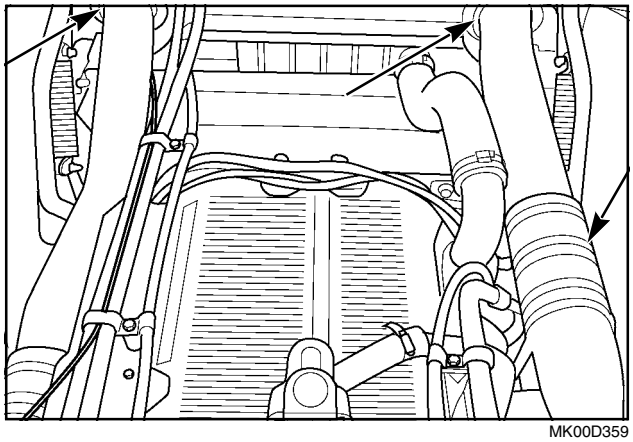
1. SECONDARY 2. PRIMARY

Engine Air Tubing Inspection

To prevent the entrance of dirt into the engine, it is absolutely essential that 1500 hour inspections of the flexible rubber connections and piping from air cleaner to the intake manifold be made. Hose or flexible connections must be replaced before they deteriorate. To eliminate any undue strain on the connections, make sure the pipes line up. See that all joints between the air cleaner and intake manifold do not leak; this includes hose connections, manifold joints and gaskets.

All gaskets must be in good condition and all clamps drawn up tight.

Maintenance and care of the air intake system which includes the filter elements is the responsibility of the customer.



MK00D359

535 SHOWN

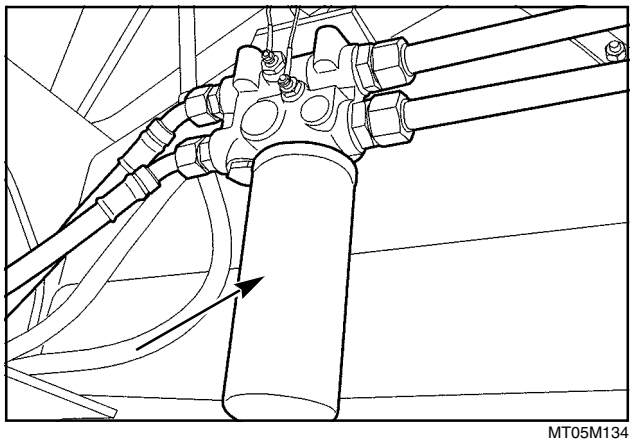
1500 HOUR MAINTENANCE

Transmission Filter

The transmission filter is located on the inside of the LH side front frame. Change the transmission oil filter at the recommended interval or when indicated by the programmable display service monitor. Your dealer has approved filters. Do not use other types.

Use the following procedure to change the transmission filter.

1. Clean the filter head, use a strap type filter wrench and turn the filter counterclockwise to remove the filter.
2. Apply clean oil to the seal on the new filter.
3. Install the new filter. Turn the filter clockwise until the gasket comes in contact with the filter head. Tighten the filter by hand another 1/2 to 3/4 turn.



MT05M134

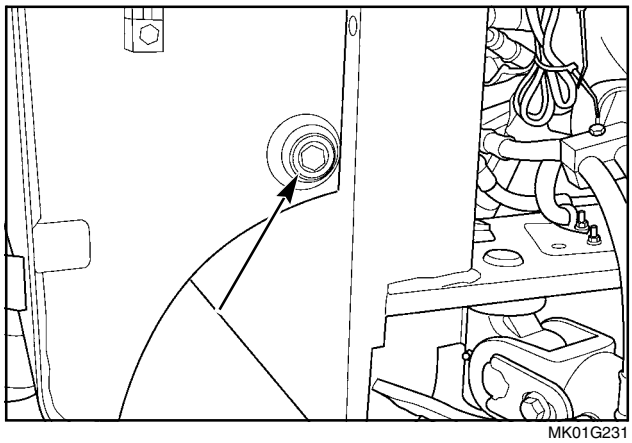
IMPORTANT: *DO NOT use a filter wrench to install the transmission filter. When the filter is too tight you can cause damage to the gasket and filter.*

Hydraulic/Axle Oil Change

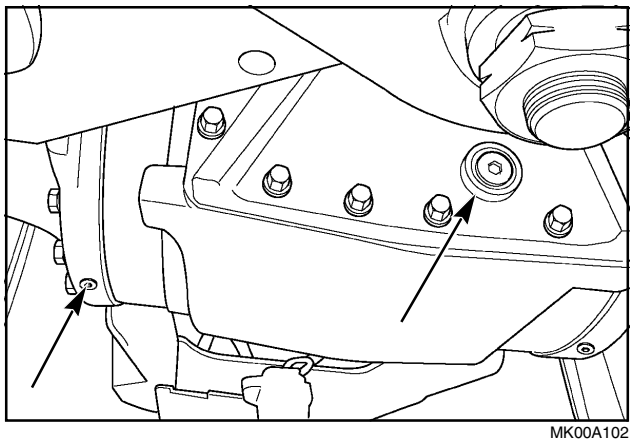
The hydraulic oil reservoir serves as a common sump for both the hydraulic circuit and the front and rear axle lube and cooling circuit. Separate filters are used for each of the circuits. When changing the hydraulic oil, the reservoir and both the front and rear axles must be drained. For best results, drain the oil while the reservoir and axles are still warm to the touch (not hot).

To change the oil, park the tractor on level ground, remove the key from the switch before performing the following steps:

1. Remove the drain plug from the bottom of the hydraulic reservoir. Reinstall and tighten the plug after draining.
2. Remove the front and rear axle center housing drain plug and the drain plugs from each final drive housing. Approximately 15 gallons (57L) will drain from each axle. Reinstall and tighten the plugs after draining.



MK01G231



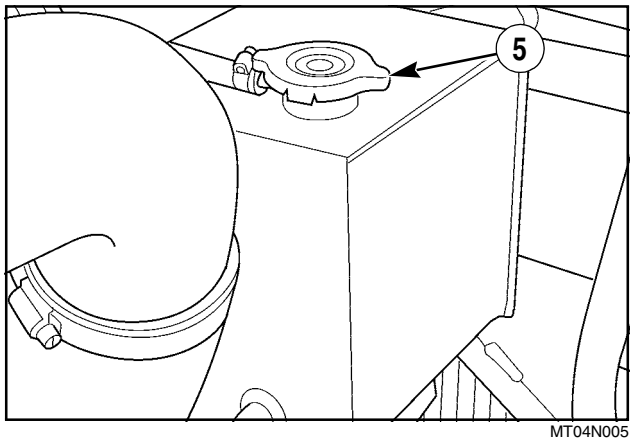
MK00A102

6000 HOUR MAINTENANCE

6. Remove the deaeration tank cap (5) and install a good commercial grade radiator cleaner and fill the system with clean water.

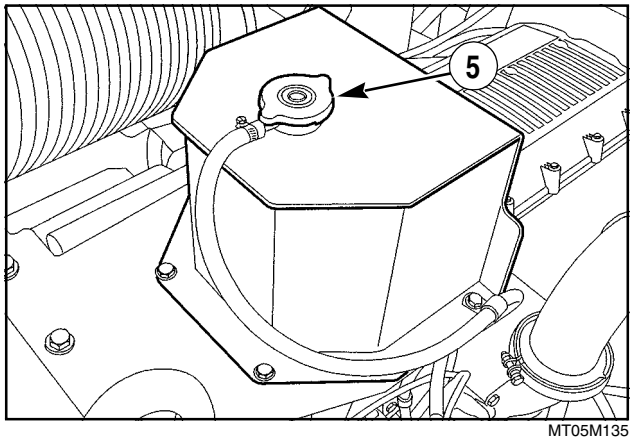
IMPORTANT: *Follow the instructions given on the product label for use. Be sure the cleaner is compatible with the aluminum radiator core.*

7. Remove the radiator cleaner solution and flush the system with clean water as directed on the product label.
8. Inspect all cooling system hoses and fittings including the heater hoses for condition and leaks.



MT04N005

335



MT05M135

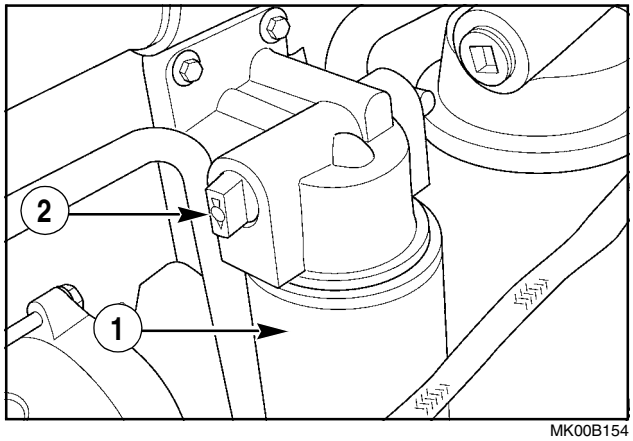
385, 435, 485, 535

9. If equipped, remove and install a new cooling system filter (1). Turn the valve (2) to the OPEN position.

IMPORTANT: ***335 And 535 Only*** *- See SCA Service Requirements for Supplemental Cooling Additive pre-charge requirements when coolant is changed.*

10. Fill the cooling system with the 50/50 Coolant Solution and Supplemental Coolant Additive specified in this manual to the fill neck of the deaeration tank.

NOTE: *Refer to Coolant Solutions at the front of this section.*

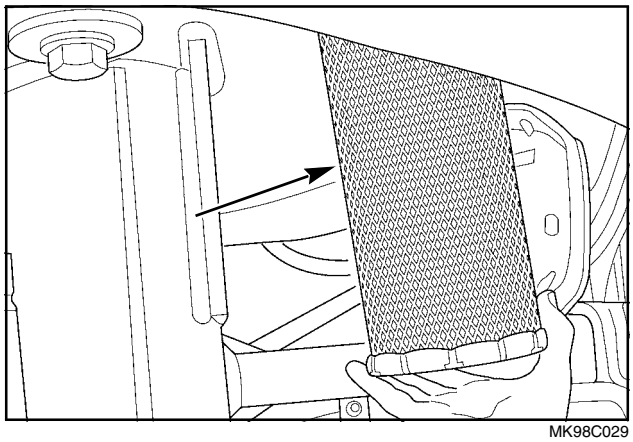


MK00B154

AS REQUIRED MAINTENANCE

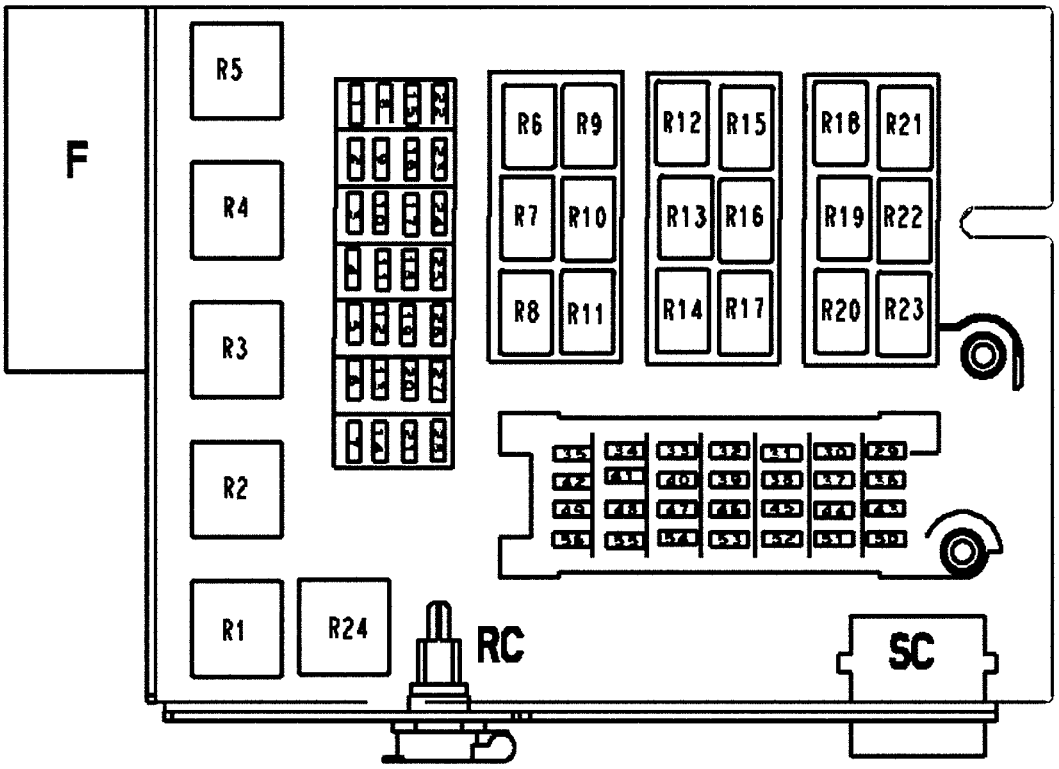
Cab Air Filter

Remove and clean the cab air filter element whenever the engine air cleaner service message is displayed on the programmable display monitor. Clean and inspect the cab filter element in the same manner described for the engine air filter element.



MK98C029

Fuse/Relay Identification - For Deluxe Cab And 24 Speed Transmission



MT07F138

FUSE BLOCK 1		
FUSE NUMBER	AMPS/ SIZE	CIRCUIT IDENTIFICATION
1	15	IGNITION SWITCH
2	10	RADIO/DOME/MAP LIGHTS
3	-	OPEN
4	20	ACCESSORY POWER PORTS
5	5	HORN
6	20	ELECTRONIC FLASHER
7	20	FNRP UNIVERSAL SWITCH
8	5	SERVICE TOOL
9	10	ICU DISPLAY
10	10	IMPLEMENT CONTROL
11	30	ELEC ENGINE GOVERNOR
12	10	CIGAR LIGHTER
13	10	AUXILLARY POWER PORT 1
14	10	AUXILLARY POWER PORT 2
15	30	WORKLIGHTS, REAR ROOF
16	15	WORKLIGHTS, FRONT ROOF
17	10	WORKLIGHT, INTERLOCK
18	15	STROBE LAMP
19	15	SEAT POWER
20	10	PTO/STARTER SOLENOIDS
21	7.5	FRONT/REAR DIFF LOCKS
22	10	ELECTRONIC ENG GOVERNOR
23	5	IMPL CAN POWER
24	-	OPEN
25	5	AXLE LUBE TEMP SWITCH
26	30	HVAC BLOWER CONTROL
27	10	REAR BRAKE LAMPS
28	1	DIODE - REAR DIFF LOCK

FUSE BLOCK 2		
FUSE NUMBER	AMPS/ SIZE	CIRCUIT IDENTIFICATION
29	20	FRONT WIPER/WASHER
30	20	REAR WIPER/WASHER
31	30	FRONT LOWER WIPER
32	15	BLOWER, CAB PRESS
33	20	ACCESSORY POWER PORTS
34	15	ELECTRIC MIRRORS/RADIO
35	10	SEAT HEATER
36	5	HVAC MODULE B+
37	10	ICU DISPLAY
38	10	ELECTRONIC ARU
39	10	PARK BRAKE
40	10	HYD AUX / RMT VALVES
41	10	TPH / HYD AUX 6 AND 7
42	10	RADAR/IMPLEMENT CONTROL
43	-	OPEN
44	20	SIDE WORKLIGHTS
45	15	CENTER HIGH BEAM
46	15	LEFT HIGH BEAM
47	15	RIGHT HIGH BEAM
48	15	LEFT LOW BEAM
49	15	RIGHT LOW BEAM
50	25	WORKLIGHTS, REAR FRAME
51	25	WORKLIGHTS, REAR FRAME
52	10	HEADLIGHT/TAIL/POS/HAZ
53	15	COMMUNICATIONS RADIO
54	-	OPEN
55	30	IMPLEMENT AUX POWER
56	1	DIODE - FRONT DIFF LOCK

ITEM NUMBER	COMPONENT IDENTIFICATION
F	ELECTRONIC FLASHER
R1	HIGH BEAM RELAY
R2	REAR WORK LIGHT RELAY
R3	IGN SWITCH POWER RELAY
R4	ELECTRONIC CONTROLLER POWER RELAY
R5	ACCESSORY POWER RELAY
R6	REAR DIFF LOCK RELAY
R7	FRONT DIFF LOCK RELAY
R8	LOW BEAN RELAY
R9	REAR ROOF WORKLGHTS RELAY
R10	FRONT ROOF WORKLIGHT RELAY
R11	WORKLIGHT INTERLOCK RELAY
R12	CAB PRESSURIZATION RELAY
R13	BOC START RELAY
R14	PTO RELAY
R15	COLD START RELAY
R16	MANUAL TRANS LOW RELAY
R17	MANUAL TRANS HIGH RELAY
R18	OPEN
R19	OPEN
R20	OPEN
R21	OPEN
R22	OPEN
R23	OPEN
R24	CENTER WORKLIGHT RELAY
RC	RADAR CONNECTOR
SC	SERVICE CONNECTOR

APPROXIMATE TRAVEL SPEEDS (MPH)

SPEED CHART: Steiger 335 - Power Shift Transmission
All Speeds in MPH at 2000 Engine RPM

		Steiger 335												
Tire Size		480/80R42-R1	18.4R42 - R1	520/85R42 - R1	20.8R42 - R2	380/90R54 - R1W	480/80R46 - R1W	520/85R46 - R1W	620/70R42 - R1W	650/85R38 - R1W	710/70R38 - R1W	710/70R42 - R1W	800/70R38 - R1W	900/50R42 - R1W
Rolling Circumference (mm)		5570	5601	5793	5905	6160	5825	6144	5841	6126	5761	6176	6145	5841
Rolling Radius (mm)		886.5	891.5	922.0	939.8	980.4	927.1	977.9	929.6	975.0	916.9	983.0	978.0	929.6
Forward Gears	1	2.4	2.4	2.5	2.5	2.6	2.5	2.6	2.5	2.6	2.5	2.7	2.6	2.5
	2	2.9	2.9	3.0	3.1	3.2	3.0	3.2	3.0	3.2	3.0	3.2	3.2	3.0
	3	3.5	3.5	3.6	3.7	3.8	3.6	3.8	3.6	3.8	3.6	3.9	3.8	3.6
	4	4.2	4.2	4.4	4.4	4.6	4.4	4.6	4.4	4.6	4.3	4.6	4.6	4.4
	5	4.8	4.8	5.0	5.1	5.3	5.0	5.3	5.0	5.3	5.0	5.3	5.3	5.0
	6	5.3	5.3	5.5	5.6	5.8	5.5	5.8	5.5	5.8	5.5	5.9	5.8	5.5
	7	5.8	5.8	6.0	6.1	6.4	6.1	6.4	6.1	6.4	6.0	6.4	6.4	6.1
	8	6.4	6.4	6.6	6.7	7.0	6.7	7.0	6.7	7.0	6.6	7.1	7.0	6.7
	9	7.0	7.0	7.3	7.4	7.7	7.3	7.7	7.3	7.7	7.2	7.8	7.7	7.3
	10	7.7	7.7	8.0	8.1	8.5	8.0	8.5	8.1	8.5	8.0	8.5	8.5	8.1
	11	8.4	8.5	8.8	8.9	9.3	8.8	9.3	8.8	9.3	8.7	9.3	9.3	8.8
	12	9.3	9.3	9.6	9.8	10.2	9.7	10.2	9.7	10.2	9.6	10.3	10.2	9.7
	13	10.6	10.7	11.1	11.3	11.8	11.1	11.7	11.1	11.7	11.0	11.8	11.7	11.1
	14	12.8	12.9	13.3	13.6	14.2	13.4	14.1	13.4	14.1	13.2	14.2	14.1	13.4
	15	15.5	15.6	16.1	16.4	17.1	16.2	17.1	16.2	17.0	16.0	17.1	17.1	16.2
	16	18.6	18.7	19.4	19.7	20.6	19.5	20.5	19.5	20.5	19.3	20.7	20.5	19.5
Reverse Gears	1	3.6	3.6	3.8	3.8	4.0	3.8	4.0	3.8	4.0	3.7	4.0	4.0	3.8
	2	8.0	8.1	8.3	8.5	8.9	8.4	8.8	8.4	8.8	8.3	8.9	8.8	8.4

NOTE: *Shifting from F16-LO to F16-HI, the engine speed exceeds the high idle setting by 200 RPM, providing approximately 40 KPH (24 MPH) road travel speed (dependent on tire size).*