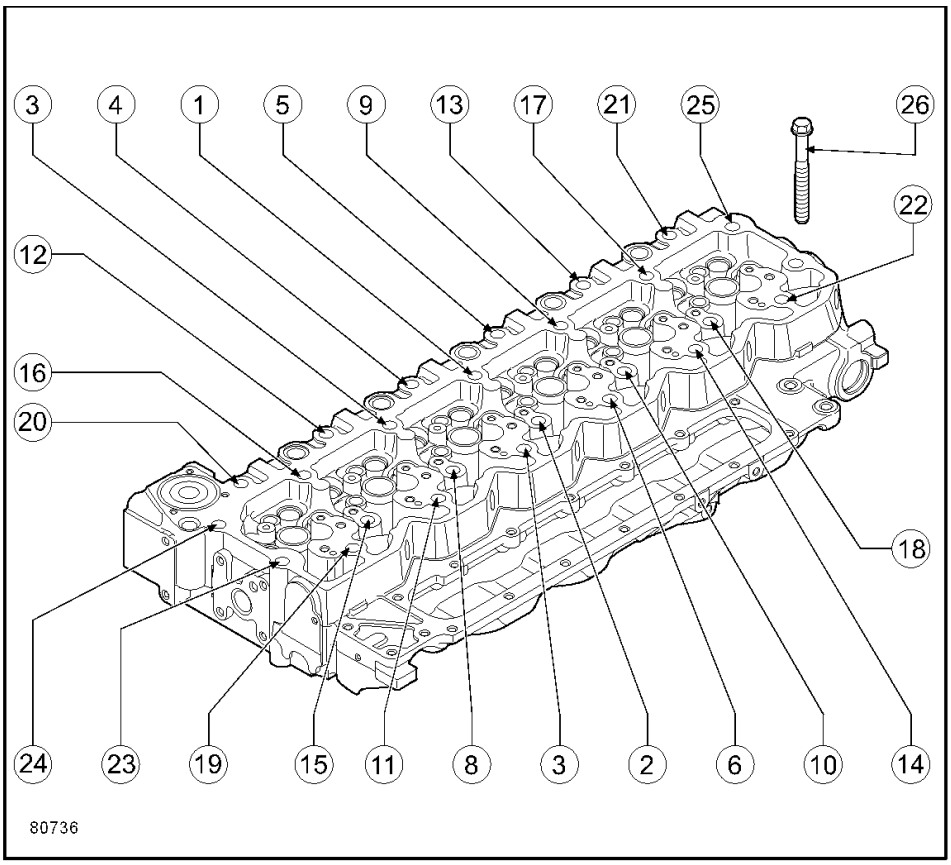
MAXXUM 110 EP
MAXXUM 115 EP
MAXXUM 120 EP
MAXXUM 125 EP
MAXXUM 130 EP
MAXXUM 140 EP
MAXXUM 110 Multicontroller EP
MAXXUM 115 Multicontroller EP
MAXXUM 120 Multicontroller EP
MAXXUM 125 Multicontroller EP
MAXXUM 130 Multicontroller EP
MAXXUM 140 Multicontroller EP
MAXXUM CVT 110
MAXXUM CVT 120
MAXXUM CVT 130
Tractor

SERVICE MANUAL

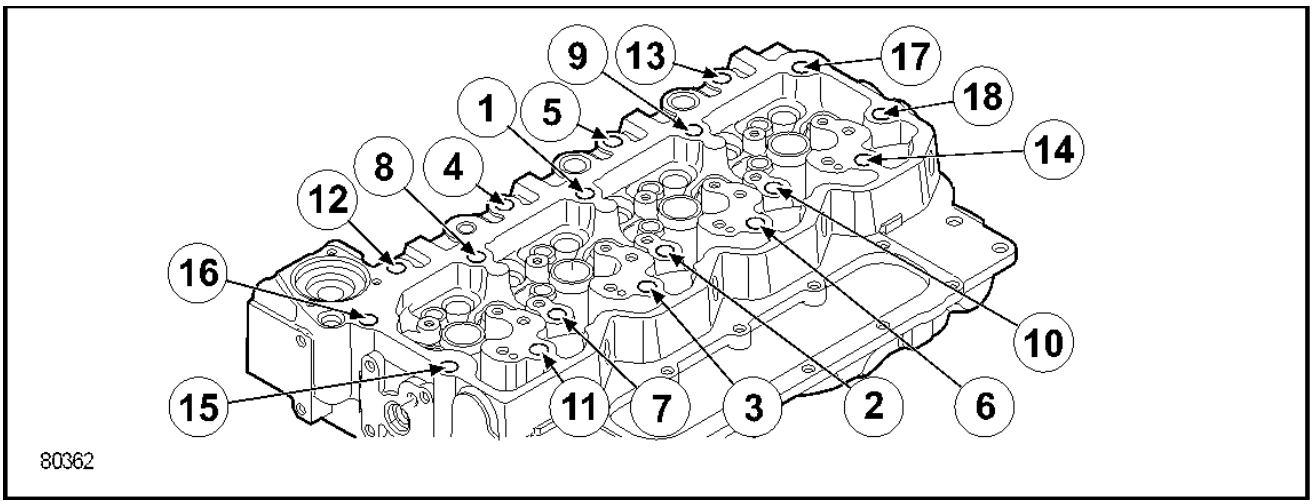
Part number 47665857
English
February 2014

CASE IH AGRICULTURE



80736 1

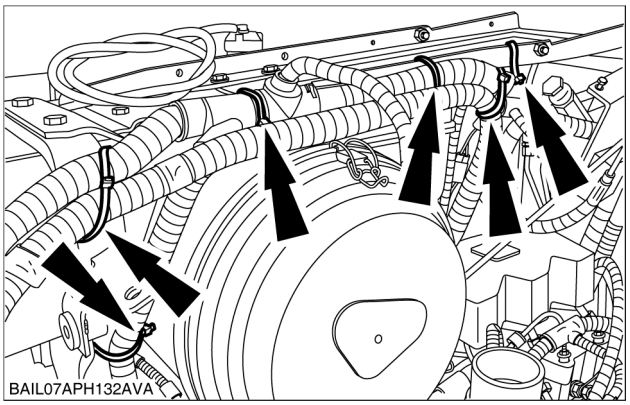
Tightening sequence for 4 cylinder head bolts



80362 2

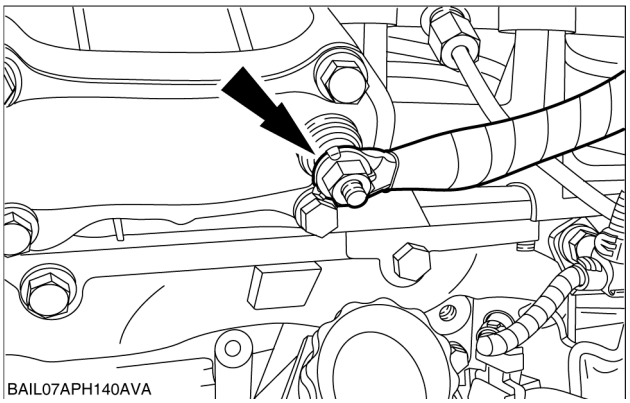
Tightening sequence for 6 cylinder engine cover nuts

38. Cut the cable ties securing the wiring loom to the air cleaner mounting frame.



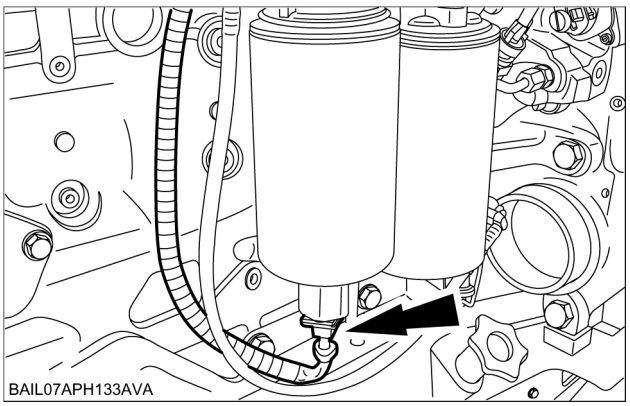
BAIL07APH132AVA 38

39. Disconnect the grid heater electrical connector.



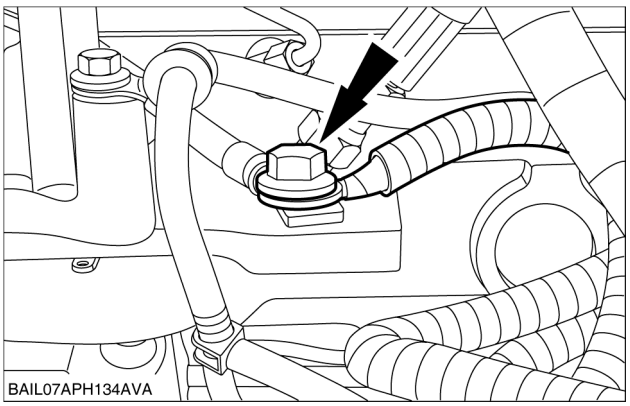
BAIL07APH140AVA 39

40. Disconnect the water-in-fuel sensor electrical connector.



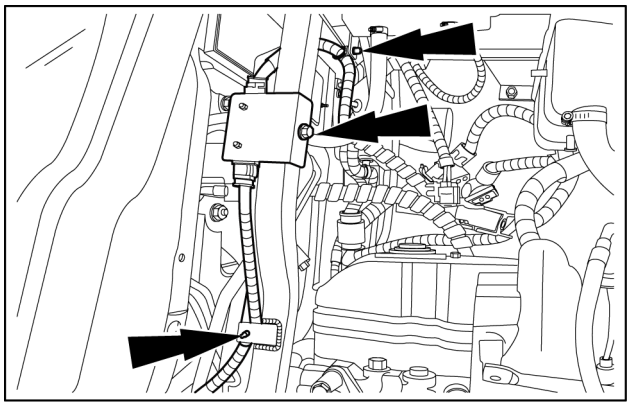
BAIL07APH133AVA 40

41. Detach the wiring loom from the intake manifold.



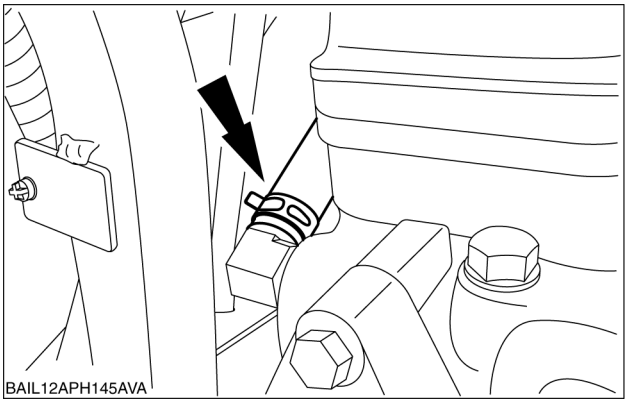
BAIL07APH134AVA 41

35. Attach the grid heater fuseable link.
    1. Install the retaining bolt.
    2. Attach the retaining clips.



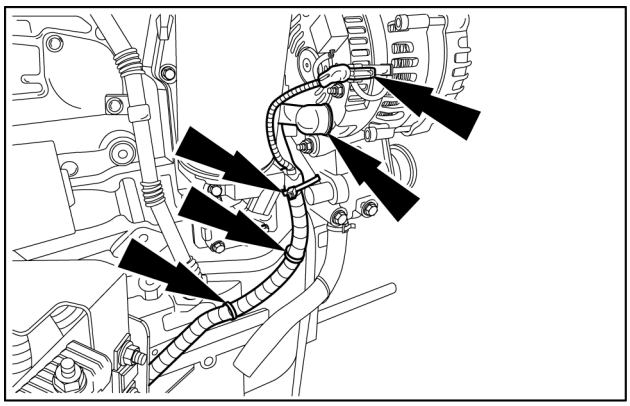
BAIL13TR00771AB 34

36. Connect the heater hose to the rear of the cylinder head.



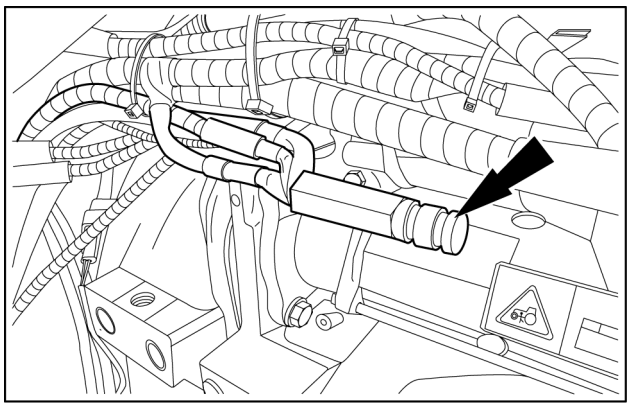
BAIL12APH145AVA 35

37. Connect the wiring harness to the alternator.
    1. Connect the electrical connectors.
    2. Install new cable ties.



BAIL13TR00770AB 36

38. Connect the starter motor negative cables.



BAIL13TR00769AB 37

Fuel tank - Install

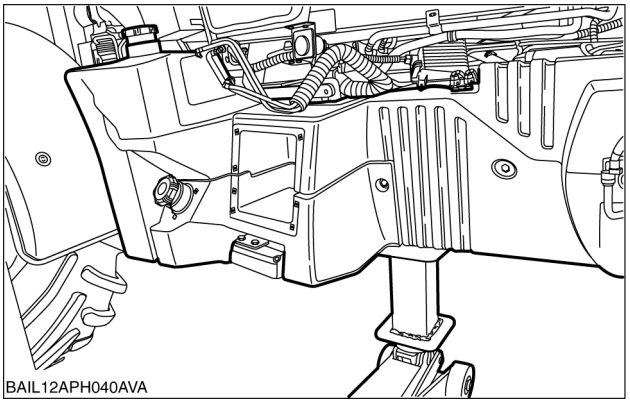
MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

⚠ WARNING

Personal Protective Equipment (PPE) required.
When assembling, operating, or servicing the machine, wear protective clothing and PPE necessary for the particular procedure. Some PPE that may be necessary includes protective shoes, eye and/or face protection, hard hat, heavy gloves, filter mask, and hearing protection.
Failure to comply could result in death or serious injury.

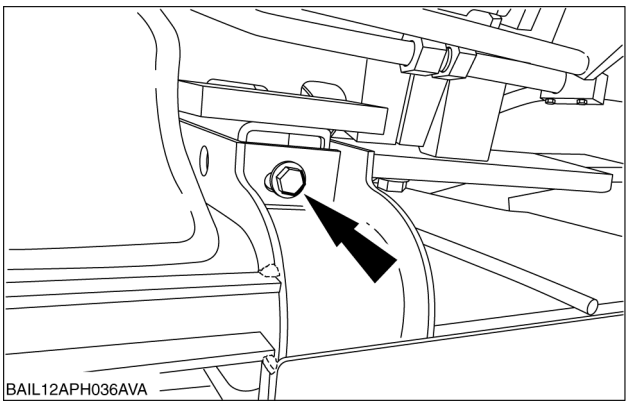
W0353A

1. Using suitable lifting equipment and the assistance of another technician, raise the fuel tank to engage the hooking mechanism and install the fuel tank.



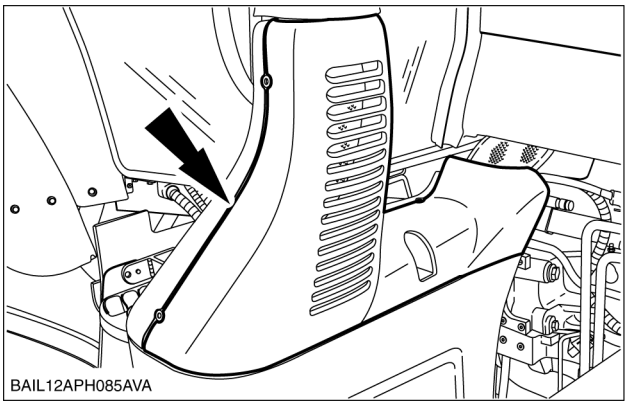
BAIL12APH040AVA 1

2. Install the fuel tank support bolt.



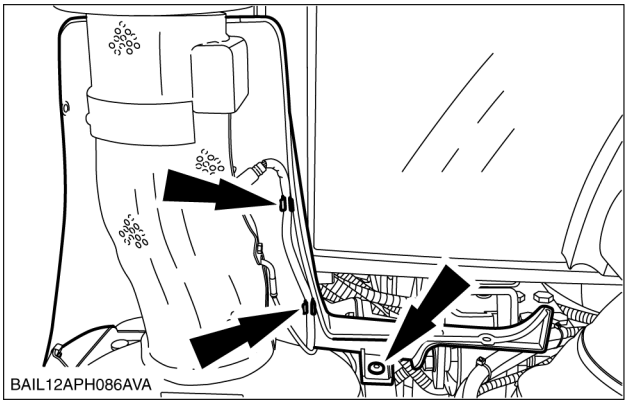
BAIL12APH036AVA 2

4. Remove the SCR muffler and catalyst upper front cover.



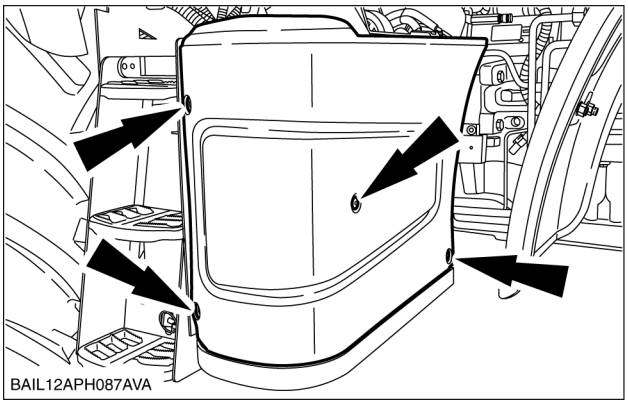
BAIL12APH085AVA 3

5. Remove the SCR muffler and catalyst upper rear cover retaining bolt. Detach the NOX sensor wiring harness from the cover.
   Remove the SCR muffler and catalyst upper rear cover.



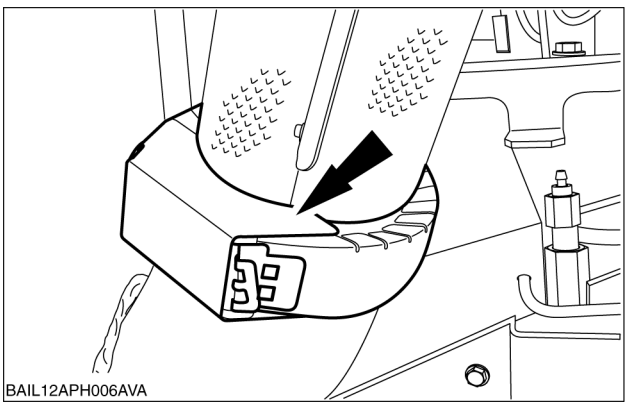
BAIL12APH086AVA 4

6. Remove the SCR muffler and catalyst lower cover.



BAIL12APH087AVA 5

7. Remove the exhaust pipe clamp shield.



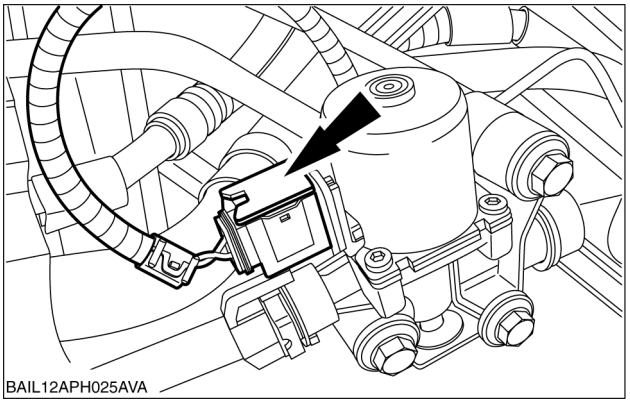
BAIL12APH006AVA 6

Coolant control valve - Remove

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

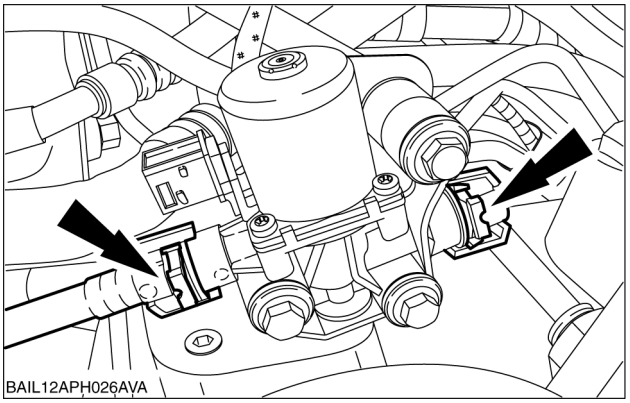
Prior operation:
Drain the coolant system, for further information refer to **Engine cooling system - Drain fluid (10.400)**.

1. Disconnect the Selective Catalytic Reduction (SCR) coolant control valve electrical connector.



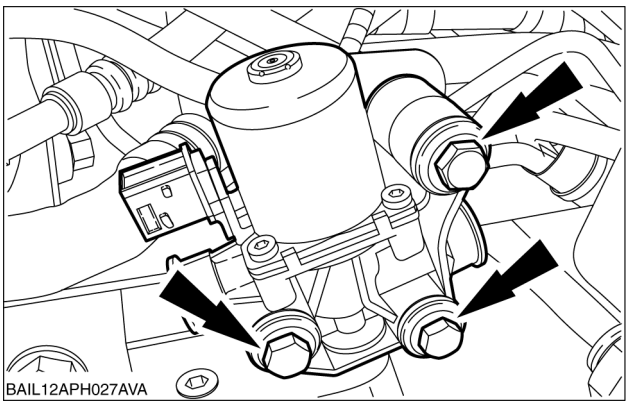
BAIL12APH025AVA 1

2. Disconnect both coolant line connectors from the SCR coolant control valve.



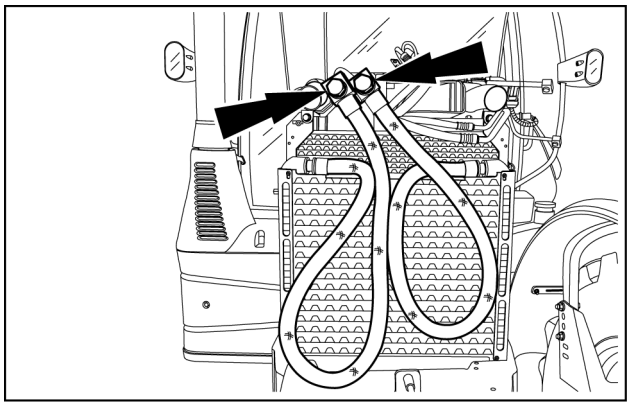
BAIL12APH026AVA 2

3. Remove the SCR coolant control valve.



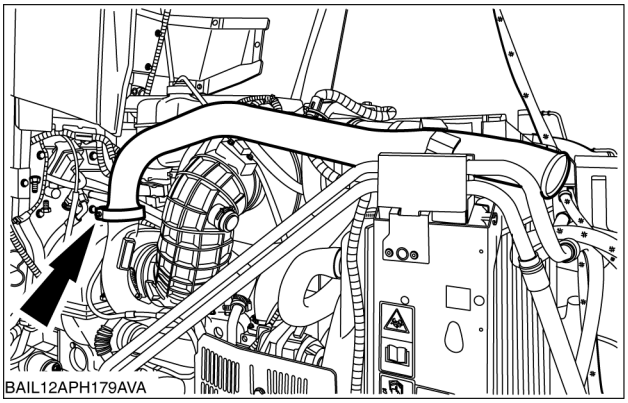
BAIL12APH027AVA 3

18. Connect the oil cooler hoses.



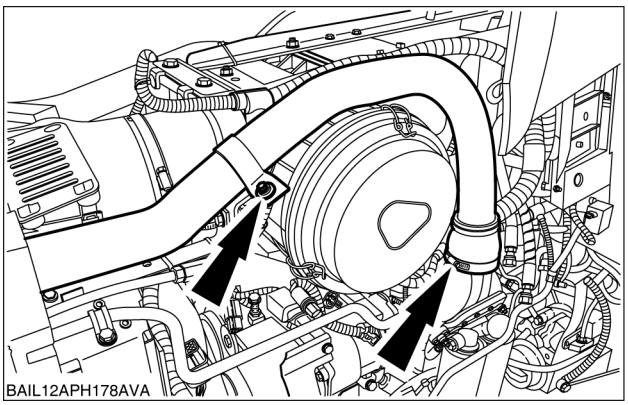
BAIL13TR00810AB 18

19. Install the right-hand air intake pipe.



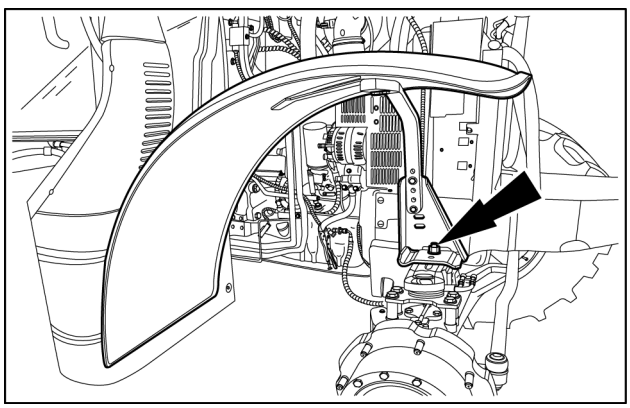
BAIL12APH179AVA 19

20. Install the left-hand air intake pipe.



BAIL12APH178AVA 20

21. Install the right-hand front fender.



BAIL13TR00809AB 21

Contents

Transmission - 21

Power shuttle transmission - Remove

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

Prior operation:
Remove the cab - see **Cab - Remove (90.150)**.
Remove the fuel tank - see .
Separate the engine and front support from the transmission - see .

⚠ WARNING

Heavy objects!
Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders.
Failure to comply could result in death or serious injury.

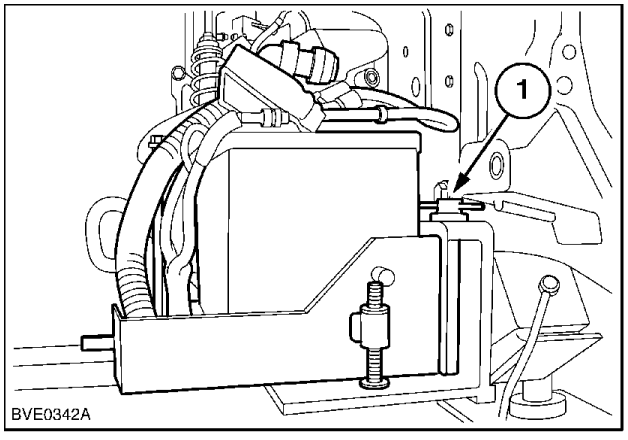
W0398A

⚠ WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

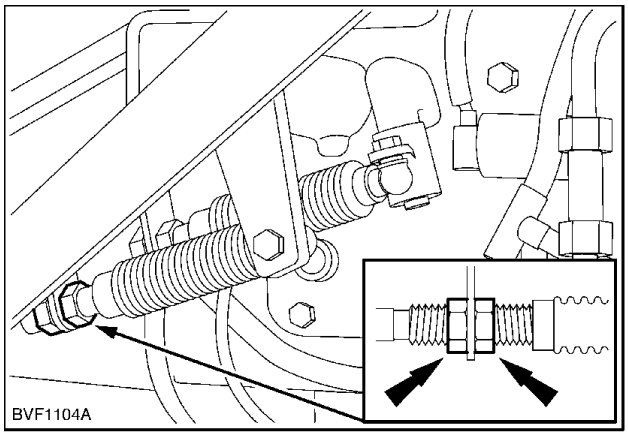
W0208A

1. Disconnect the wiring harness as required to enable the separation of the transmission from the rear axle.
2. Remove the battery tray swivel pin **(1)** and remove the battery tray and battery.



BVE0342A 1

5. Loosen the range shift cable adjustment nuts.

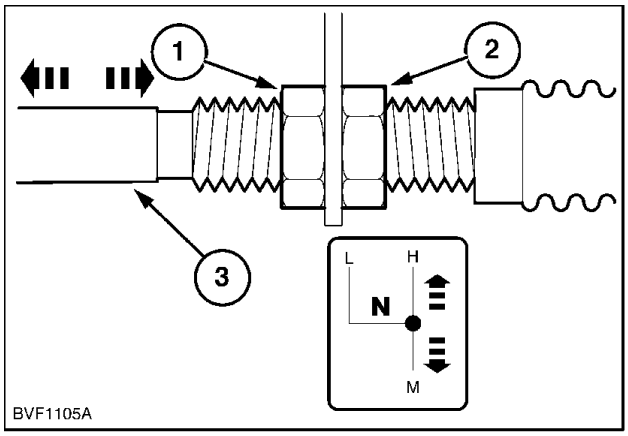


BVF1104A 4

6. Move the range shift cable **(3)** to equally distribute the freeplay until the range lever in the cab is in the position shown.
   Tighten the adjustment nuts **(1)** and **(2)**.

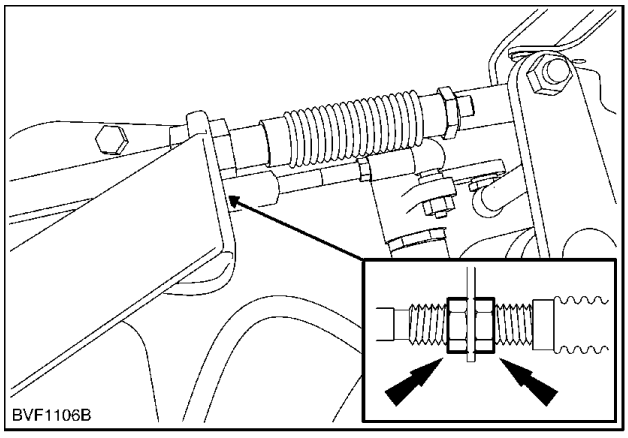
NOTE: *Ensure the range lever in the cab is still located in the detent position.*

NOTE: *Ensure the range shift lever in the cab is not obstructed by the console when selecting a gear.*



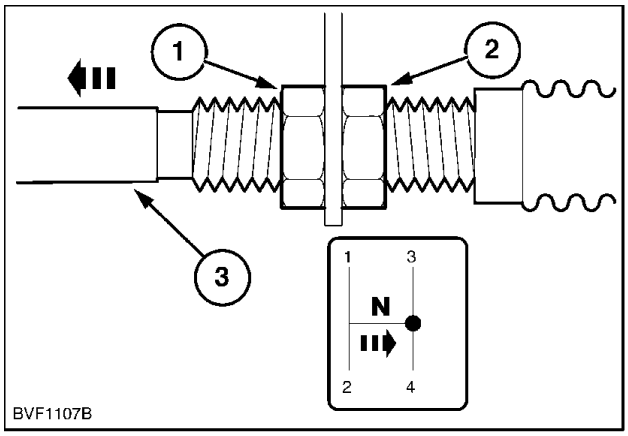
BVF1105A 5

7. Loosen the main shift selection cable adjustment nuts.



BVF1106B 6

8. Move the main shift selection cable **(3)** to remove the freeplay until the main shift lever in the cab is in the position shown.
   Tighten the adjustment nut **(1)** to the bracket and tighten the adjustment nut **(2)**.



BVF1107B 7

Clutch Range clutch - Disassemble (C1/C2)

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

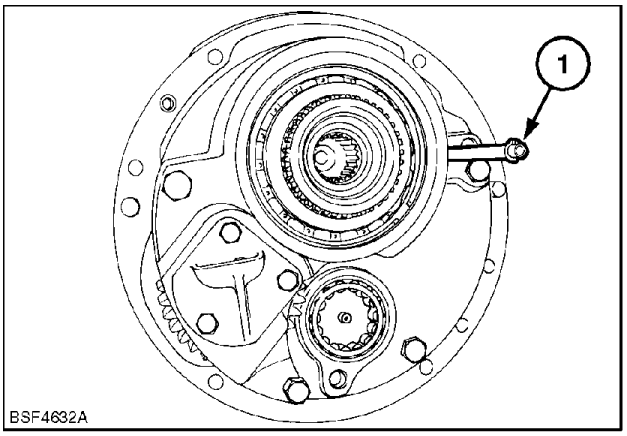
Prior operation:
Clutch Range clutch - Remove (21.154)

⚠ WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

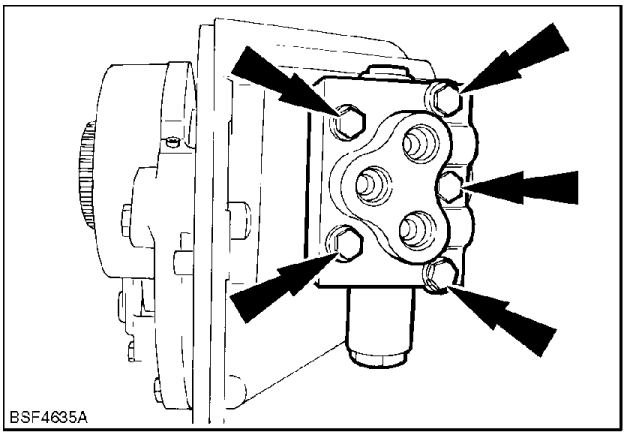
W0208A

1. Remove the lubrication oil supply tube **(1)**



BSF4632A 1

2. Remove the lubrication control valve block.



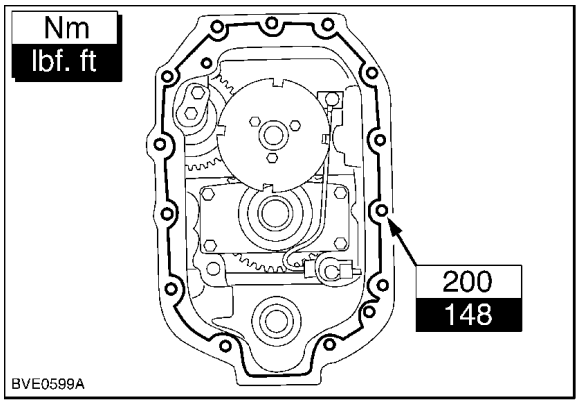
BSF4635A 2

Main synchronizer 1-4, 5-8	**0.5 mm** (**0.0197 in**)
Forward/Reverse synchronizer	**0.8 mm** (**0.0315 in**)
Hi/Lo synchronizer	**0.85 mm** (**0.0335 in**)

NOTE: *The driveline oil specification and capacity is described in* ***Consumables ()****.*

Semi-Powershift transmission - Torque

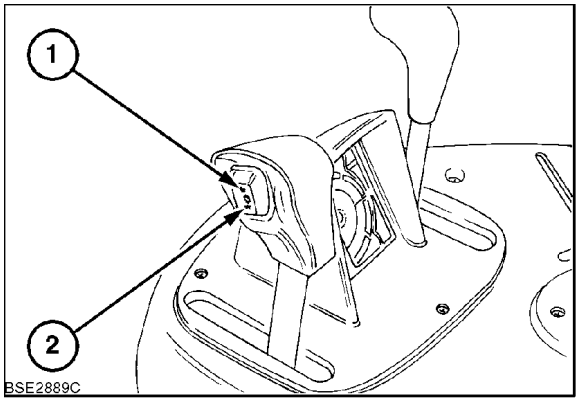
MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT



BVE0599A_49 1

Gear Selector Switches.

The upshift switch **(1)** and downshift switch **(2)** allows the operator to change between 8 basic ratios by sending a signal to the controller, without using the clutch pedal.

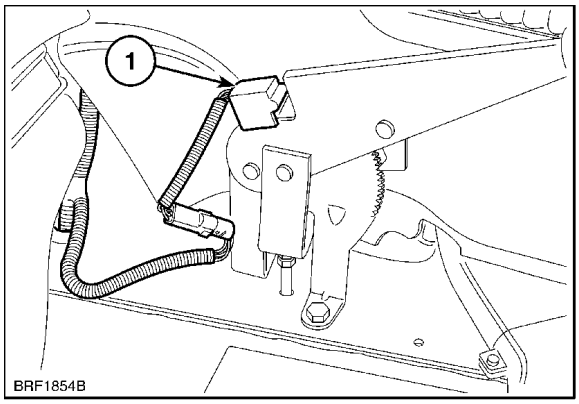


BSE2889C 16

Parking Brake Switch.

The parking brake has to be applied during calibration, if it is not applied an error code will be displayed.

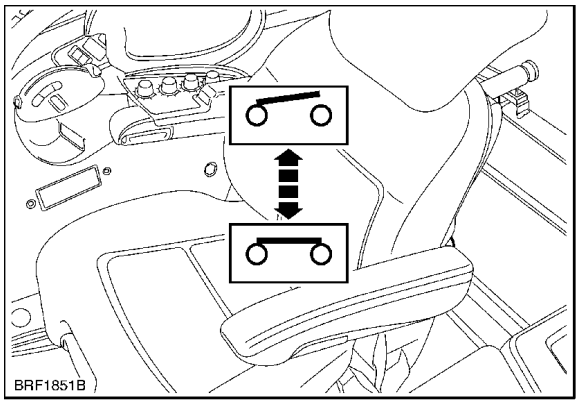
The tractor will drive if the handbrake is applied but an audible alarm will be heard.



BRF1854B 17

Seat Switch.

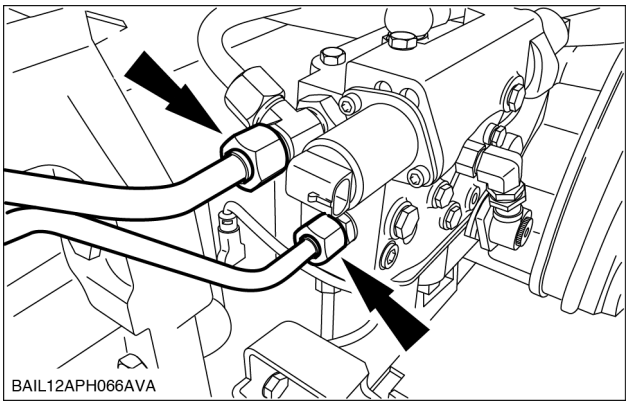
The seat switch must be operated, i.e. operator seated, before the controller allows the engagement of the forward or reverse drive.



BRF1851B_263 18

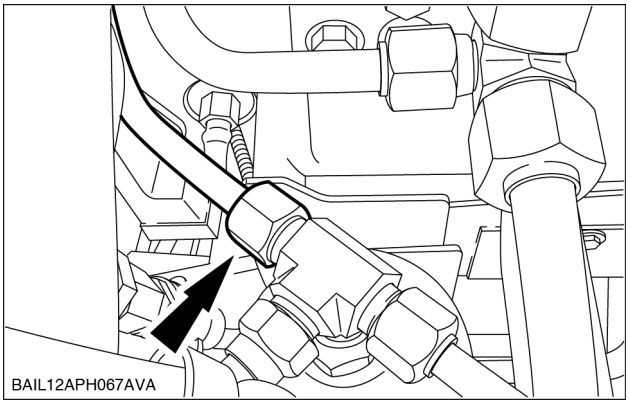
NOTE: *The clutch pedal will override a faulty seat switch.*

26. Disconnect the differential lock oil pipes.



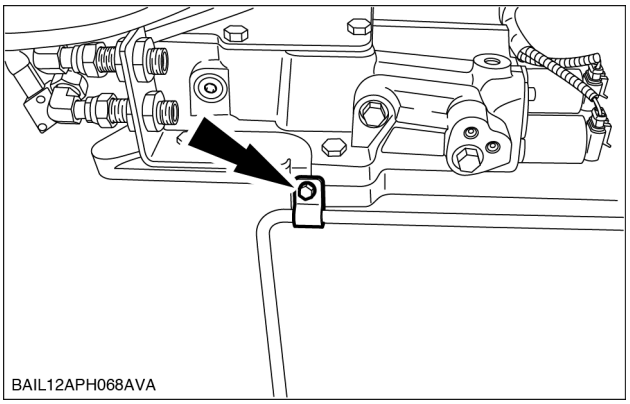
BAIL12APH066AVA 26

27. Remove the accumulator oil pipe.



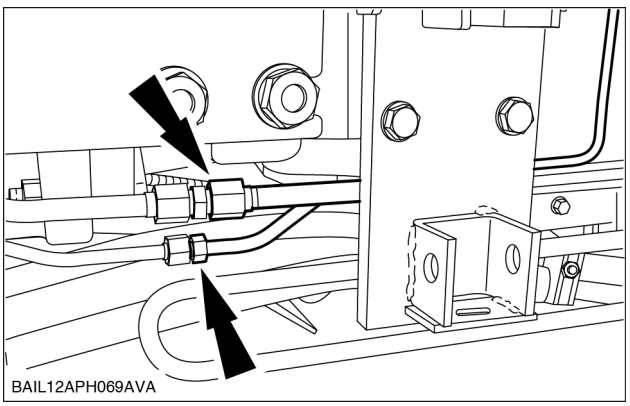
BAIL12APH067AVA 27

28. Remove the differential lock pipe retaining bracket.



BAIL12APH068AVA 28

29. Remove the differential lock oil supply pipe and disconnect the trailer brake oil supply pipe.



BAIL12APH069AVA 29

Semi-Powershift transmission - Testing The tractor drives in all gears and in all ranges but has the following fault:

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

NOTE: *- Transmission is noisy in operation*

N°	Test Point	Expected Result	Other Result (Possible Cause)
1	**Condition** Is the transmission lube warning light illuminated?	**Result** YES **Action** Go to test **2**	**Action** NO Go to test **3**
2	**Condition** Fault in the lube supply to transmission. Refer to Hydraulic Pressure Testing **Transmission lubrication valve - Pressure test (21.103)**. Is the transmission noisy after lube system repair?	**Result** YES **Action** Go to test **3**	**Action**
3	**Condition** Is the oil level correct?	**Result** YES **Action** Go to test **4**	**Action** NO Adjust as required and investigate reason for oil loss (leakage)
4	**Condition** Is the correct grade of oil used?	**Result** YES **Action** Suspect failure within transmission, worn bearings, worn or failed parts	**Action** NO Drain and refill with correct grade of oil

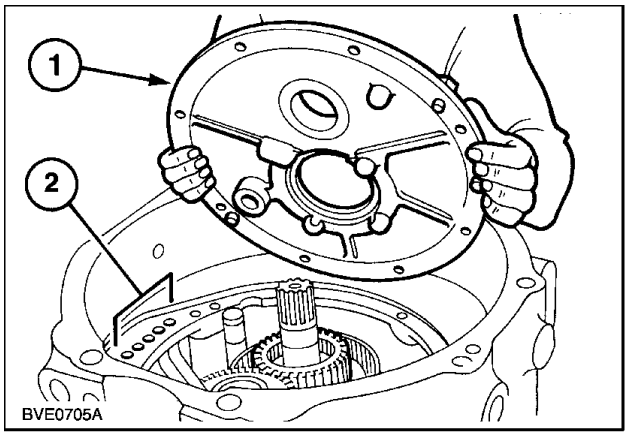
Semi-Powershift transmission - Testing - Tractor drives in all gears and ranges but has the following fault:

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

NOTE: *- Transmission clunks during inching.*

N°	Test Point	Expected Result	Other Result (Possible Cause)
1	**Condition** Perform Clutch spring calibration on C1 and C2 Clutches. Does Transmission still clunk?	**Result** YES **Action** Go to test **2**	**Action** NO Tractor okay

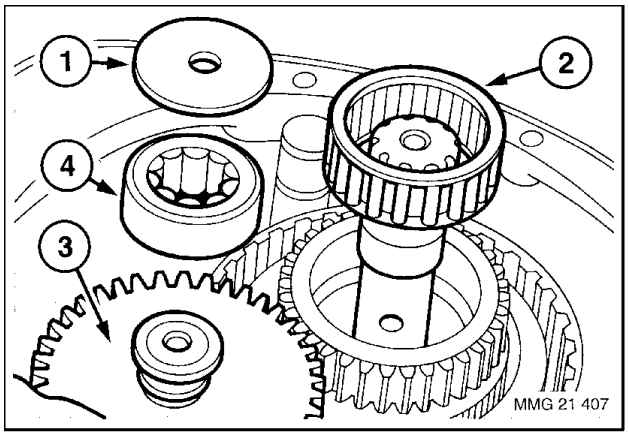
5. Remove the front cover plate **(1)** and the O-rings **(2)**.



BVE0705A 6

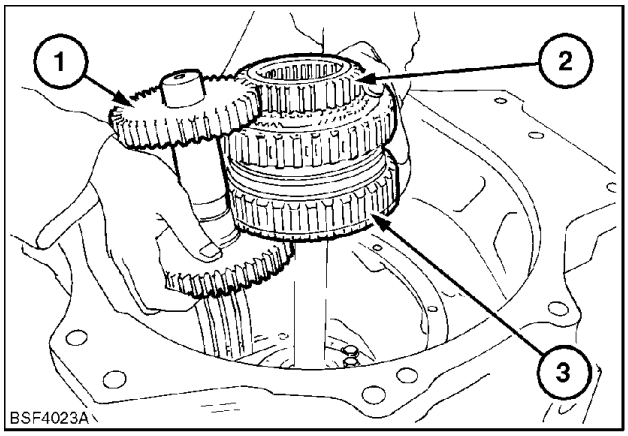
6. Remove the baffle plate **(1)** and the front roller bearing **(4)** from the front lower support shaft **(3)**.
   Remove the needle roller bearing **(2)**.

NOTE: *The front roller bearing **(4)** and the baffle plate **(1)** may remain in the front cover plate.*



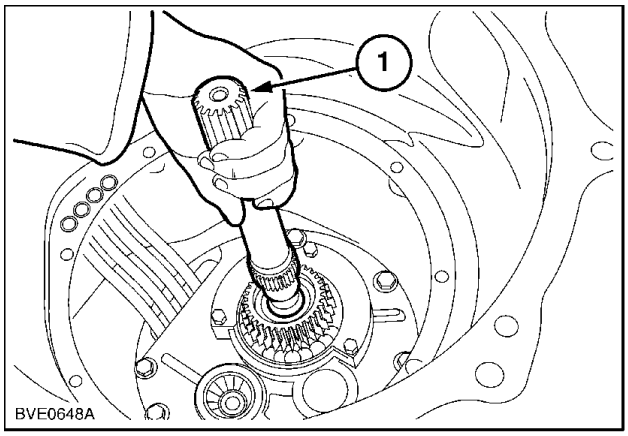
MMG 21 407 7

7. Remove the C1/C2 clutch **(3)**, output gear **(2)** and the front lower support shaft **(1)**.



BSF4023A 8

8. Remove the PTO/input shaft **(1)**.

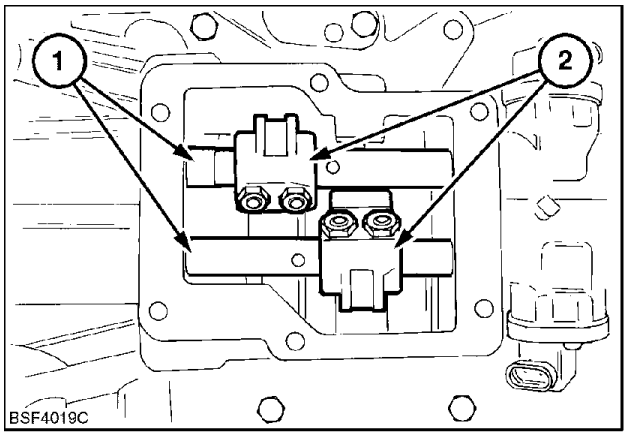


BVE0648A 9

Transmission internal controls - Travel adjust

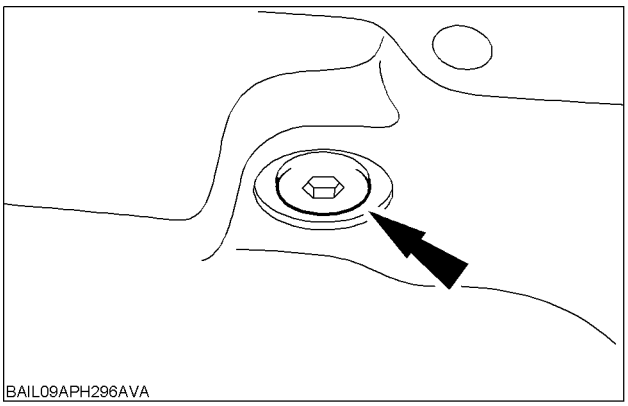
MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

1. ADJUSTMENT OF FORWARD/REVERSE AND MAIN (1-4/5-8) SYNCHRONISERS
   To gain access to the synchronizer forks and rails it is necessary to remove the cab mat and floor.
   Remove the transmission cover plate to expose the shift rails **(1)** and forks **(2)**.
   The adjustment procedure is the same for both synchronisers.



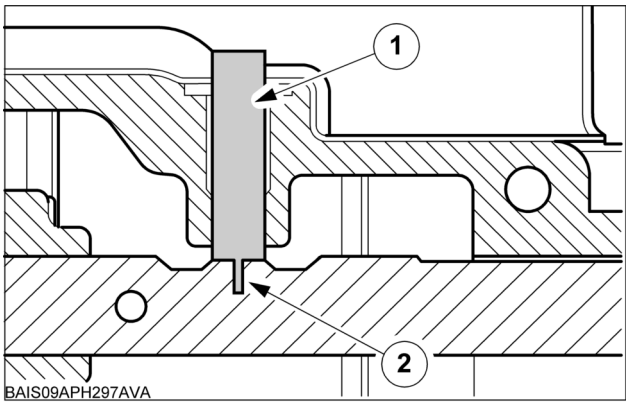
BSF4019C 1

2. Remove the detent spring, plunger and ball from the transmission cover.



BAIS09APH296AVA 2

3. Insert the special tool **380002598** into the plunger bore and position the tip of the special tool into the 2mm bore hole in the selector rail, midway between the forward and reverse detent positions. This will centralize and lock the selector rail in the neutral position.



BAIS09APH297AVA 3

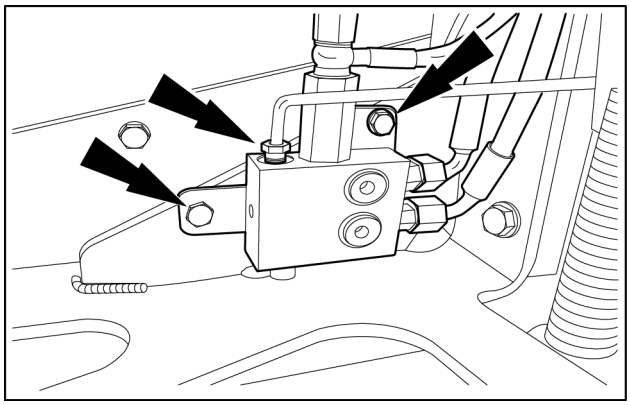
4. Remove the two locking screws fixing the selector fork to the selector rail.

Continuously Variable Transmission (CVT) - Exploded view – Solenoid valves, sensors, hydraulic lines

MAXXUM CVT 110	INT
MAXXUM CVT 120	INT
MAXXUM CVT 130	INT

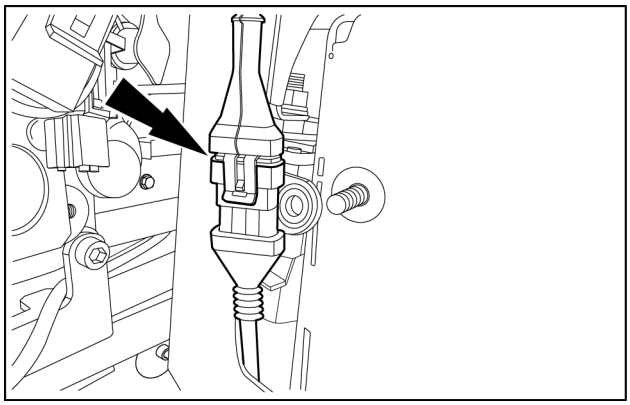
Components			
201	O-Ring	**202**	Retainer Ring
203	Hydraulic tube	**204**	Retainer Ring
205	O-Ring	**206**	Hydraulic tube
207	Hydraulic tube	**208**	Hydraulic tube
209	Hydraulic tube	**210**	Bolt
211	O-Ring	**212**	O-Ring
213	Link	**214**	O-Ring
215	Retainer Ring	**216**	Cover cup
217	seal	**218**	seal
219	Pistons	**220**	seal
221	seal	**222**	Bolt
223	Bolt	**224**	Housing
225	Spool	**226**	Retainer Ring
227	Shimming	**228**	Spring
229	Spring	**230**	Screw plug
231	Filter	**232**	Bolt
233	O-Ring	**234**	O-Ring
235	Charge pressure sensor for the transmission	**236**	Temperature sensor for the transmission
237	O-Ring	**238**	Bolt
239	Valve block	**240**	O-Ring
241	Pressure sensor for clutch **A**	**242**	O-Ring
243	Pressure sensor for clutch **B**	**244**	O-Ring
245	Accumulator	**246**	Clutch **A** solenoid valve
247	Clutch **B** solenoid valve	**248**	Emergency-drain solenoid valve
249	O-rings	**250**	Solenoid valve for shift cylinder **R1**
251	Solenoid valve for shift cylinder **F2**	**252**	Bracket
253	Bracket	**254**	Bolt
255	cap	**256**	Fitting
257	O-Ring	**258**	Bolt
259	O-Ring	**260**	Pressure sensor for the transmission
261	Dowel pin	**262**	Seal
263	Dowel pin	**264**	Filter head
265	O-Ring	**266**	Blank Plug
267	Blank Plug	**268**	‘Neutral’ Pressure Switch Restrictor.
269	Blank Plug	**270**	Blank Plug
271	Blank Plug	**272**	Blank Plug
273	Blank Plug	**274**	Bolt

32. 1. Install the front brake valve block.
    2. Connect the front brake pipe to the front brake valve block.



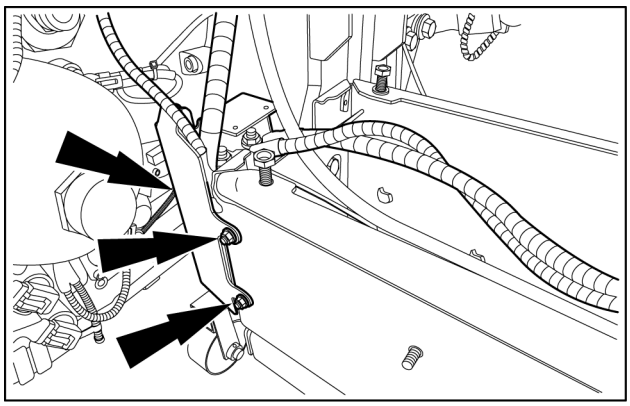
BAIL13TR01010AB 31

33. Connect the battery isolator electrical connector.



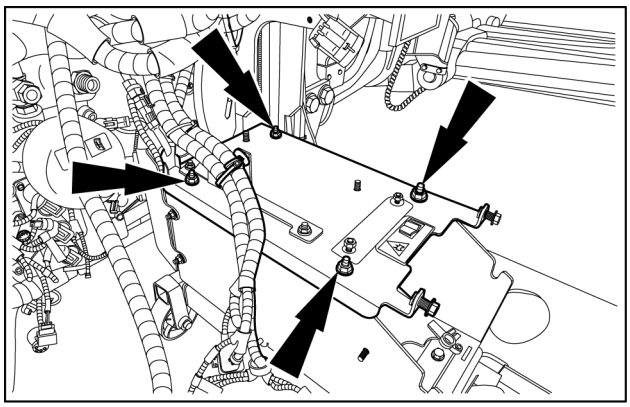
BAIL13TR01009AA 32

34. Attach the isolator bracket to the battery tray.



BAIL13TR01008AB 33

35. Install the battery tray cover.



BAIL13TR01007AB 34

Valve block - Install

MAXXUM CVT 110	INT
MAXXUM CVT 120	INT
MAXXUM CVT 130	INT

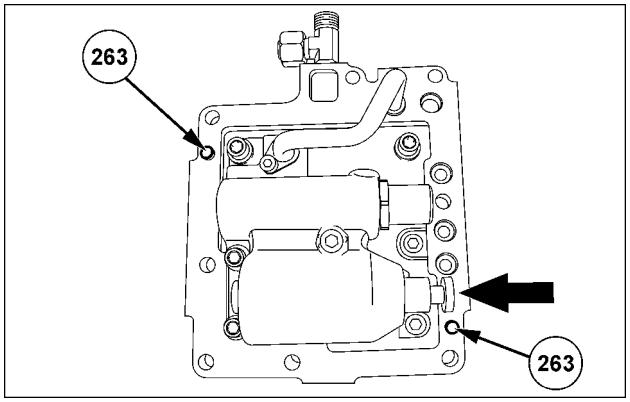
Continuously Variable Transmission (CVT) - Exploded view – Transmission output (21.504)

Continuously Variable Transmission (CVT) - Exploded view – Solenoid valves, sensors, hydraulic lines (21.504)

Prior operation:
Valve block - Assemble (21.505)

NOTE: *If you removed the plugs from the housing or from the cover, perform the following steps. Coat the plugs with* ***LOCTITE® 243****. Install the plugs.*

1. Push the piston **(219)** all the way into the shift cylinder.
2. Insert the dowel **(263)**.



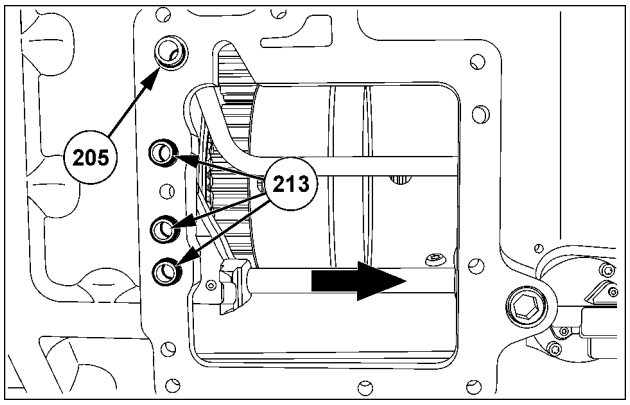
SS10F172 1

3. Shift the shift fork **(162)** into shift position **F2** (forward).
4. Install a new O-ring **(205)** on the supply line **(203)**.

NOTE: *Grease the O-rings with industrial Vaseline.*

5. Insert all connectors **(213)** with new O-rings **(214)** into the housing.

NOTE: *Grease the O-rings with industrial Vaseline.*

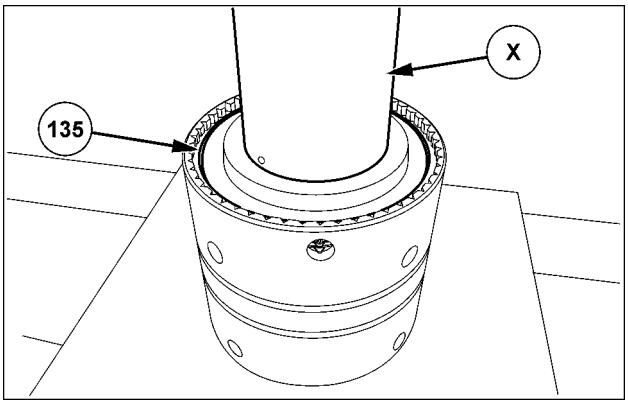


SS10F224 2

6. Degrease the sealing surfaces.Apply **LOCTITE® 5205** evenly on the sealing surface on the valve block.
7. Apply **LOCTITE® 5205** evenly on the sealing surface on the valve block.

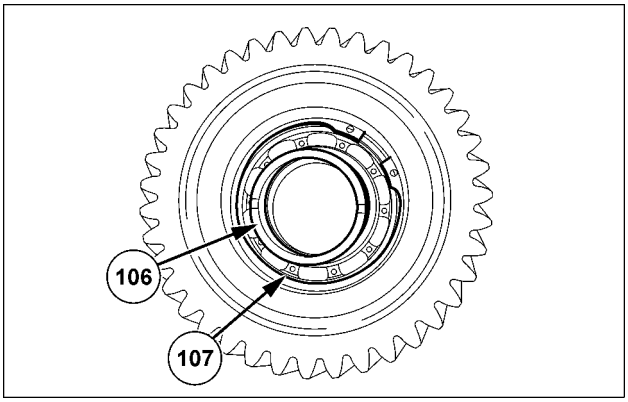
NOTE: *When you apply the* ***LOCTITE®****, make sure that the oil holes remain free.*

21. Fit the end plate **(134)**.
22. Use a suitable tube **(X)** to press the end plate **(134)** downward.
23. Fit the circlip **(135)**.



SS10F144 11

24. Fit the bearings **(104)** and the spacer ring **(106)**.
25. Fit circlip **(107)**.

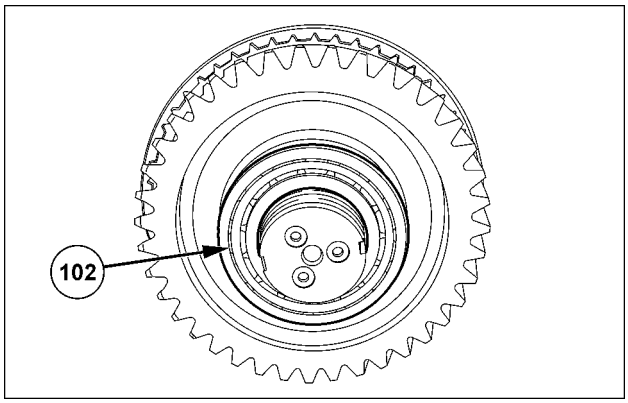


SS10F154 12

26. Fit the tooth gear (inner disk carrier) **(105)**.

NOTE: *Rotate the tooth gear (inner disk carrier)* ***(105)*** *during the installation.*

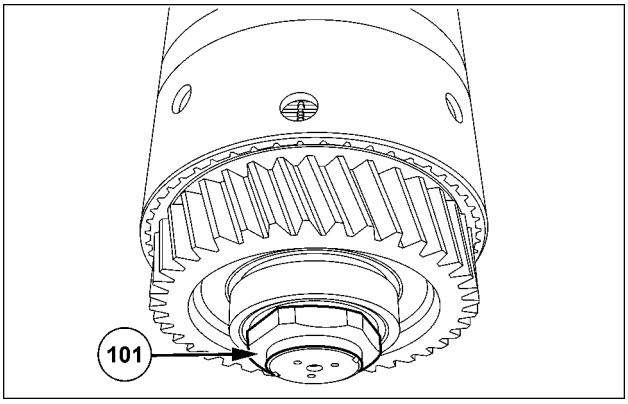
27. Fit the ring **(103)**.
28. Use a suitable positioning tool to fit the bearing **(102)**.



SS10F156 13

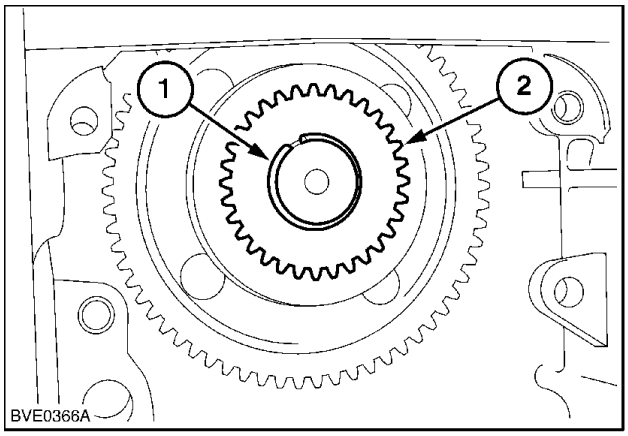
29. Screw the nut **(101)** onto the shaft.

NOTE: *The nut* ***(101)*** *will tighten through torque at a later stage.*



SS10F132 14

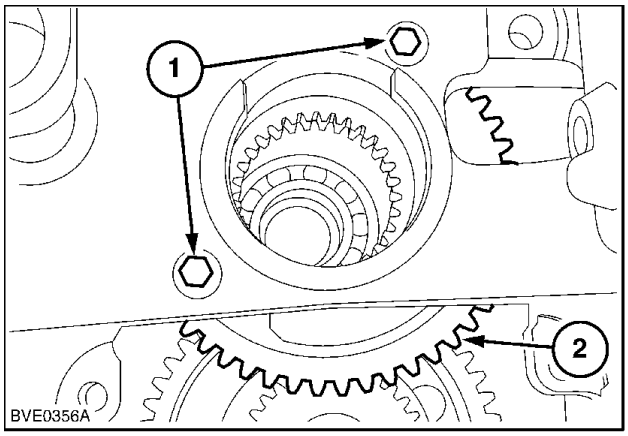
4. Install the creeper coupler assembly **(2)** and install the retaining ring to the pinion shaft **(1)**.



BVE0366A 4

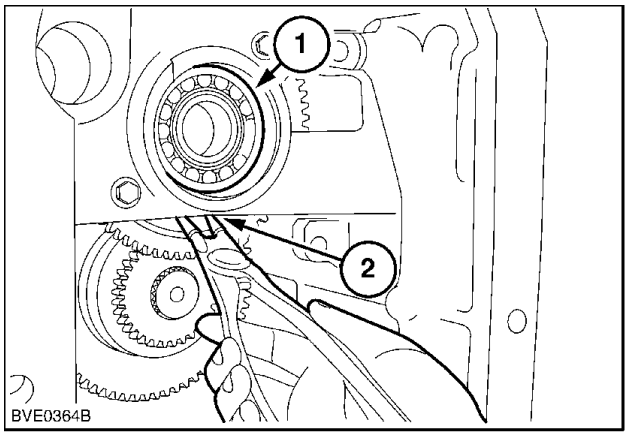
5. Position the creeper gear **(2)**. Loosely install two M8 x 1.25 x 50 bolts **(1)** to support the creeper gear. Remove the creeper gear **(2)**.

NOTE: *Make sure the creeper gear is in the correct position so the open ends of the retaining ring can be seen.*



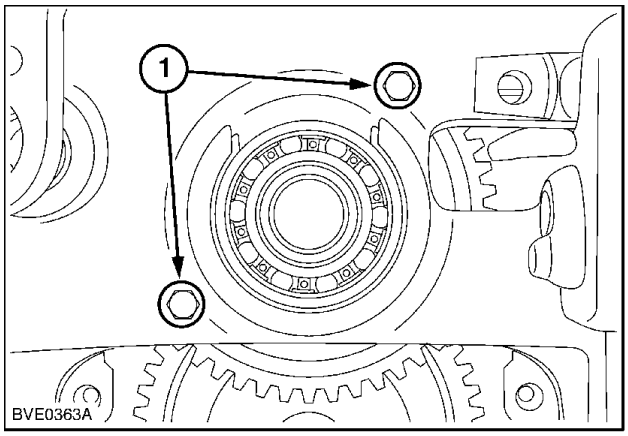
BVE0356A_367 5

6. Install the creeper shaft **(1)** and the retaining ring **(2)**.



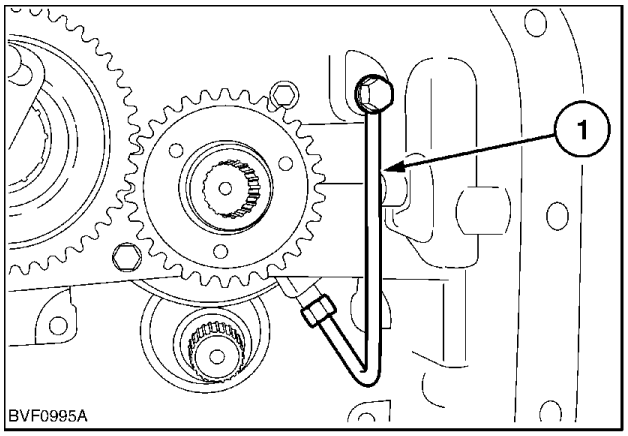
BVE0364B 6

7. Remove the creeper gear support bolts **(1)**.



BVE0363A 7

12. Install the 17th gear clutch supply pipe **(1)**.

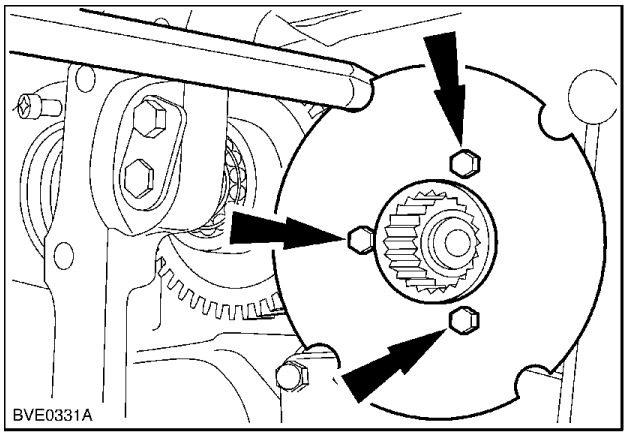


BVF0995A 11

13. Install the PTO torque sensor pick up disc.

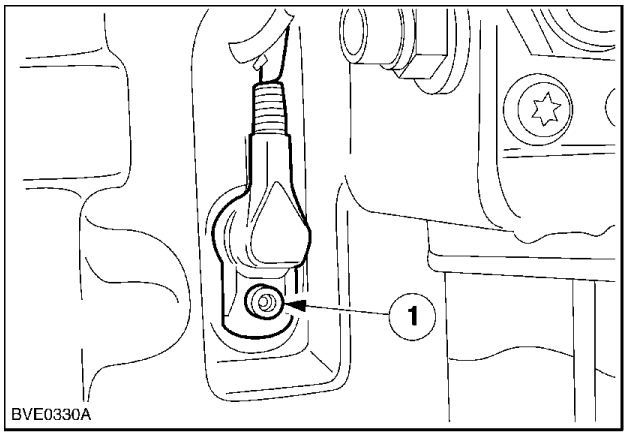
NOTE: *Use a suitable bar to hold the PTO torque sensor pick up disc.*

NOTE: *Apply* ***LOCTITE® 243*** *onto the retaining bolt threads.*



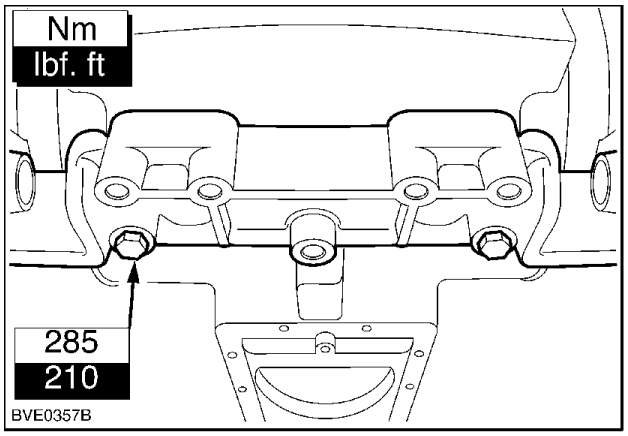
BVE0331A_381 12

14. Install the PTO torque sensor **(1)**.



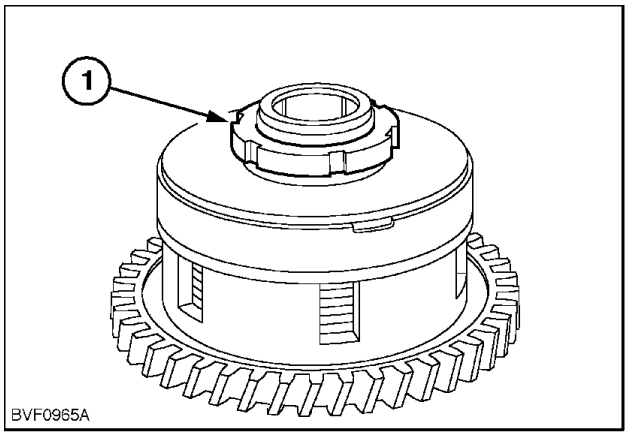
BVE0330A_380 13

15. Install the lower link support to the rear axle housing taking the following into consideration:
    - Thoroughly clean and degrease the mating surfaces and apply a bead of liquid gasket of approximately **2 mm** (**0.079 in**) in diameter to the rear axle housing. Install the lower link support. Tighten the retaining bolts to the specified torque value.



BVE0357B_383 14

14. Stake the retaining nut **(1)**.

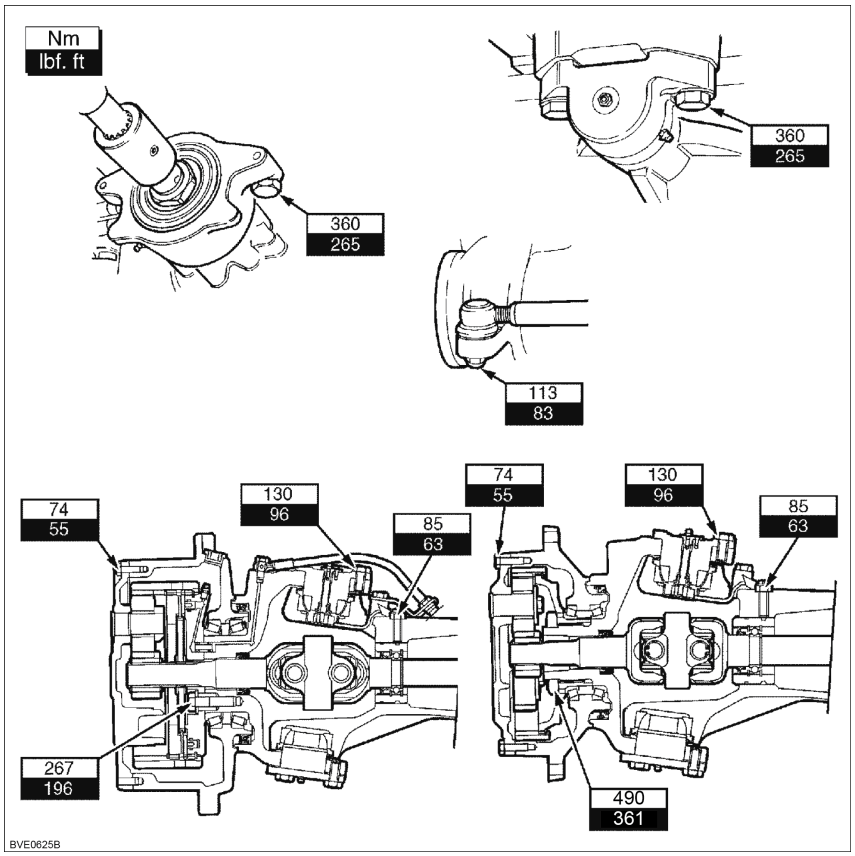


BVF0965A 14

Next operation:
Install the clutch - see **Front-Wheel Drive (FWD) clutch - Install (23.202)** .

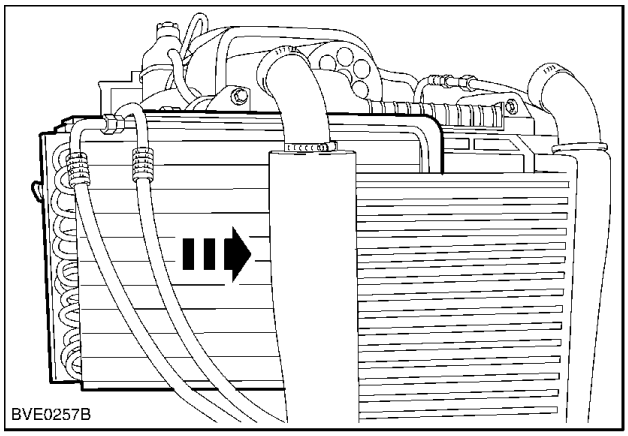
Powered front axle - Torque

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT



BVE0625B 1

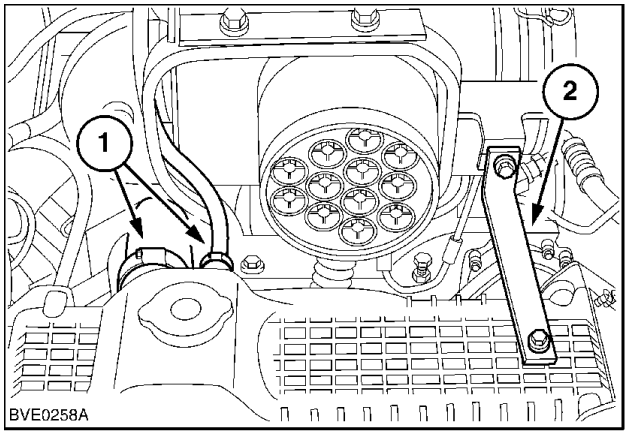
7. Slide out the air conditioning condenser from the radiator and reposition with the hoses still attached.



BVE0257B 7

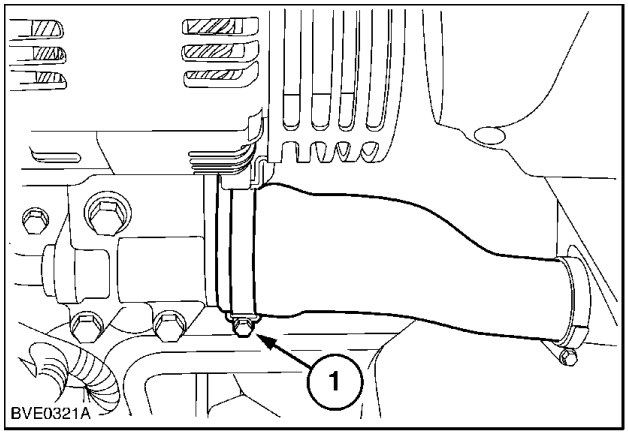
All Tractors

8. Loosen the hose clamps **(1)** and disconnect the coolant hoses from the radiator.
   Remove the radiator support **(2)**.



BVE0258A 8

9. Loosen the hose clamp **(1)** and disconnect the coolant hose.

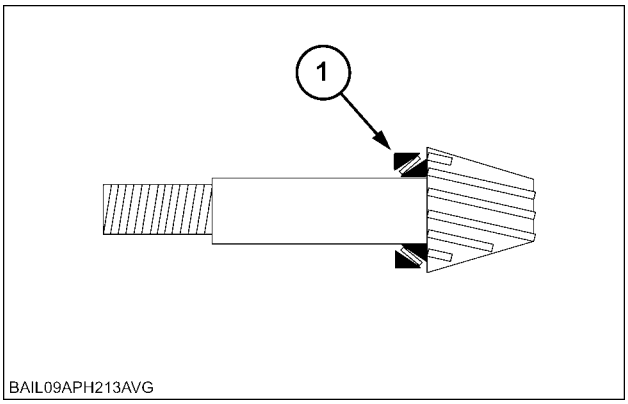


BVE0321A 9

Bevel gear set and differential carrier - Preload (Standard Class 4 Axle)

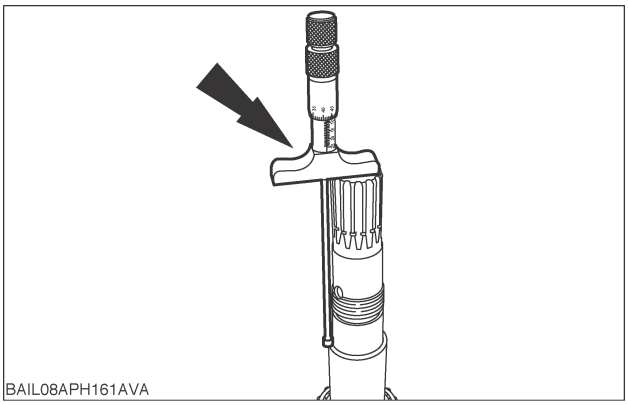
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

1. Install the inner bearing **(1)** onto the pinion shaft.



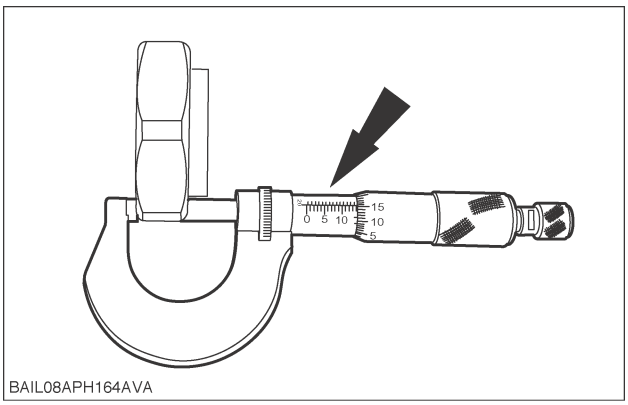
BAIL09APH213AVG 1

2. Using a suitable depth gauge micrometer, measure the distance from the top of the pinion shaft to the shoulder to obtain measurement **(L)**.



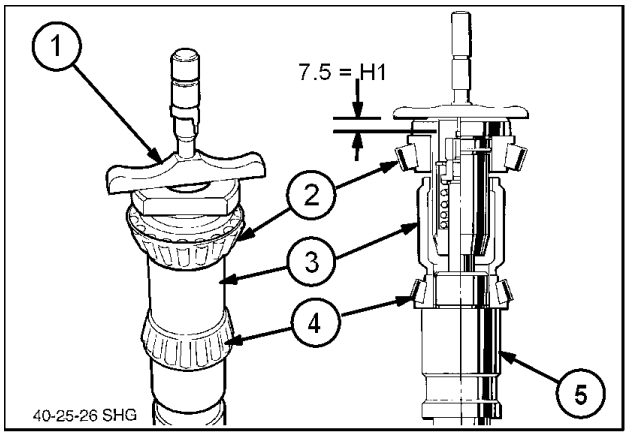
BAIL08APH161AVA 2

3. Using a suitable micrometer, measure the thickness of the pinion nut to obtain measurement **(G)**.



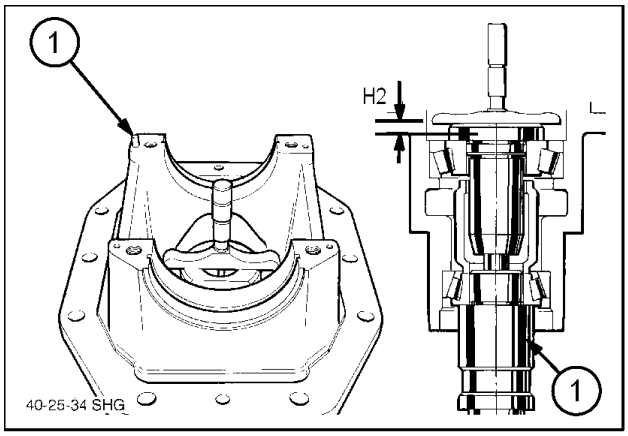
BAIL08APH164AVA 3

4. Using a depth micrometer, measure the distance (H1) between the upper surface of the special tool and the central threaded pin of the special tool **380000248**/ **380000463 (1)**.
   Disassemble the above parts, lubricate the bearings with oil and then re-assemble the parts, excluding the bearing spacer, in the differential housing.



40-25-26 SHG 3

5. Tighten the nut of the special tool **380000248**/ **380000463 (1)**, while turning the special tool to ensure that the bearings are seated correctly.
   Install spacer for Suspended front axle.
   Using a depth micrometer, measure distance (H2).
   The thickness of the adjustment shim required is calculated by:
   Shim S1 = H2 - H1 + **0.05 mm**
   If necessary, round the value obtained up to the nearest **0.05 mm**.
   Leave the special tool in the differential housing for the pinion depth measurement.



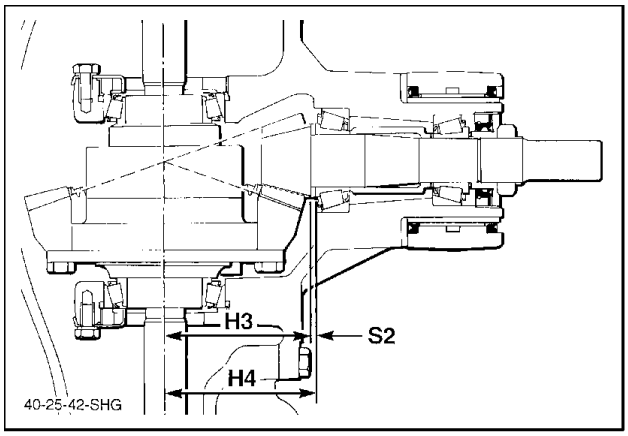
40-25-34 SHG 4

Pinion To Crown Wheel Shimming Procedure

6. The pinion to crown wheel shimming procedure calculates the thickness of shims S2, positioned beneath the shoulder of the pinion gear to ensure that the theoretical conical point of the pinion aligns with the centre of the differential crown wheel.

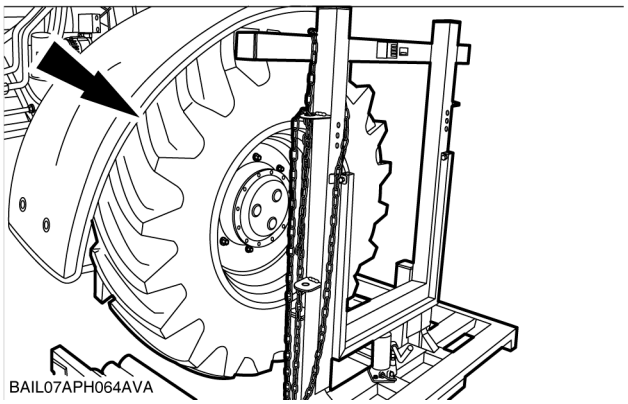
Pinion Shimming Dimensions

7. H4 Dimension from Pinion Bearing to Centre line of Differential Casing
   H3 **115 mm** Manufacturers Pinion Dimension ±C (Correction Factor) or **122.5 mm** ±C for class IV axles
   S2 Shim Thickness
   The dimension H4 in the calculation of the shim thickness can be determined using the pinion adjustment special tool **380000249**
   Both procedures are explained as follows.



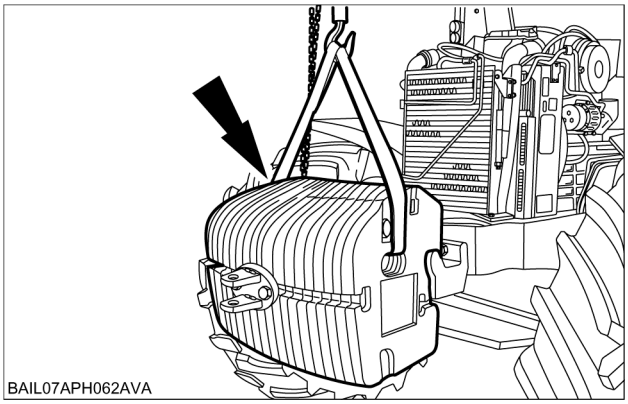
40-25-42 SHG 5

22. Install the front wheel.
    Tighten the wheel nuts to the specified torque, for further information refer to **Front wheels - Torque (44.511)**.



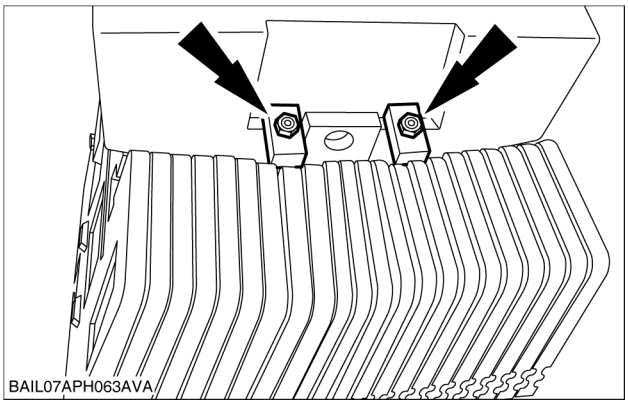
BAIL07APH064AVA 23

23. Using suitable lifting equipment install the front weights.



BAIL07APH062AVA 24

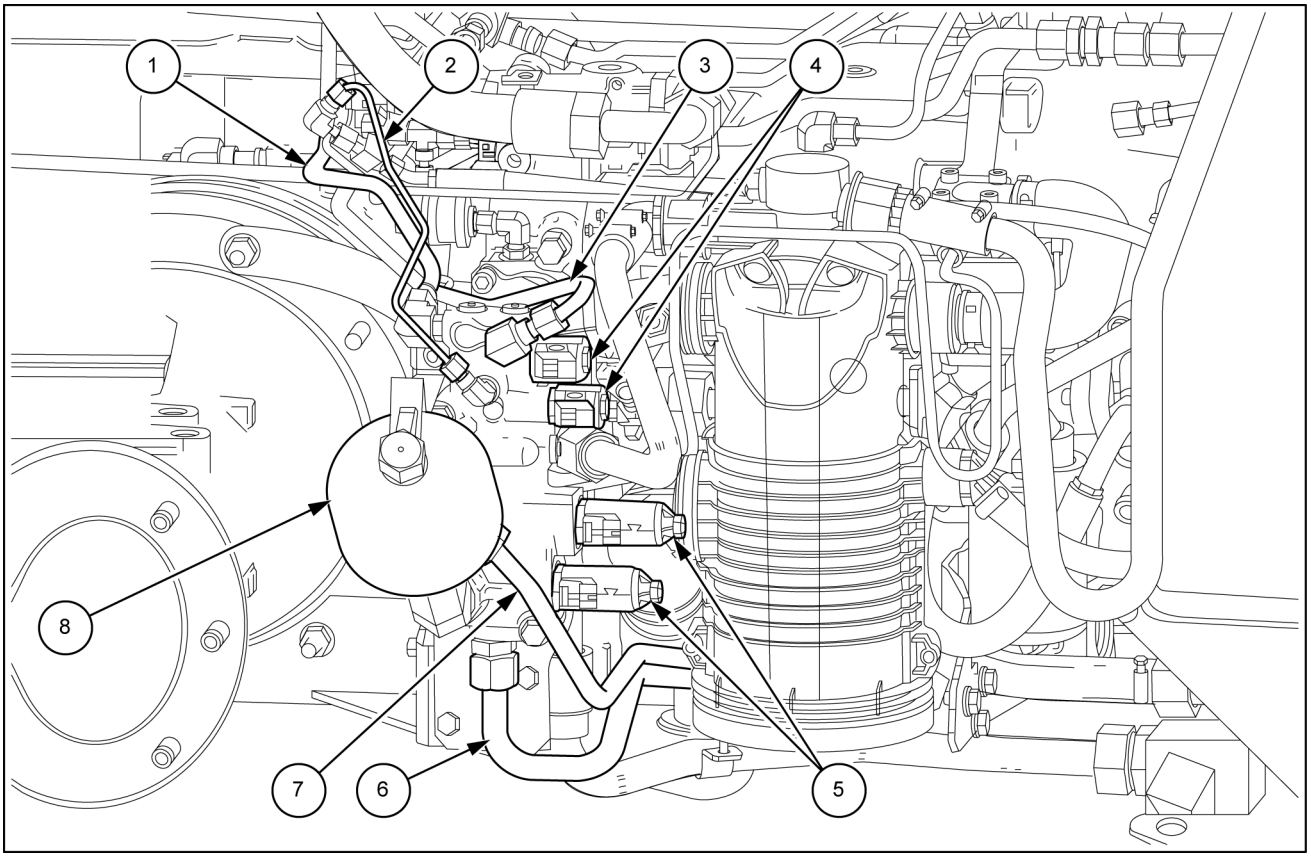
24. Install the retaining bolts to the front weights.



BAIL07APH063AVA 25

Suspended axle control valve - Overview

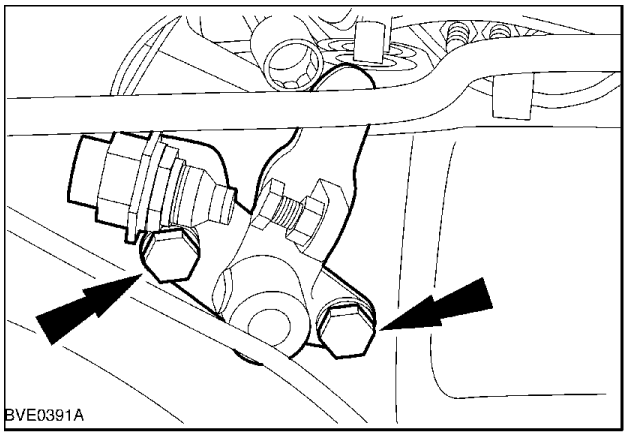
MAXXUM CVT 110	INT
MAXXUM CVT 120	INT
MAXXUM CVT 130	INT



BAIL13TR00736FB 1

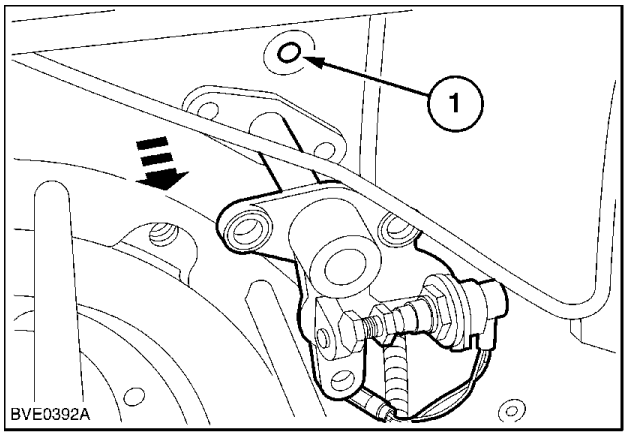
1. Return to tank pipe
2. Load sensing pipe
3. Pressure feed
4. Raise/Lower coils
5. Lockout coils
6. Piston feed
7. Rod feed
8. Accumulator **1 l** Pre charge **19.0 - 21.0 bar** (**275.5 - 304.5 psi**)

36. Remove the PTO ground drive selector shaft retaining bolts.



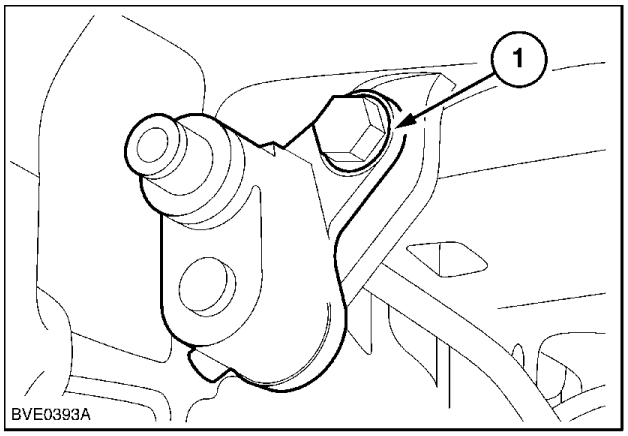
BVE0391A 36

37. Remove the PTO ground drive selector shaft and remove the selector fork from the rear axle housing. Remove the detent plunger and spring **(1)**.



BVE0392A 37

38. Remove the internal PTO clutch oil supply cut off valve **(1)**.

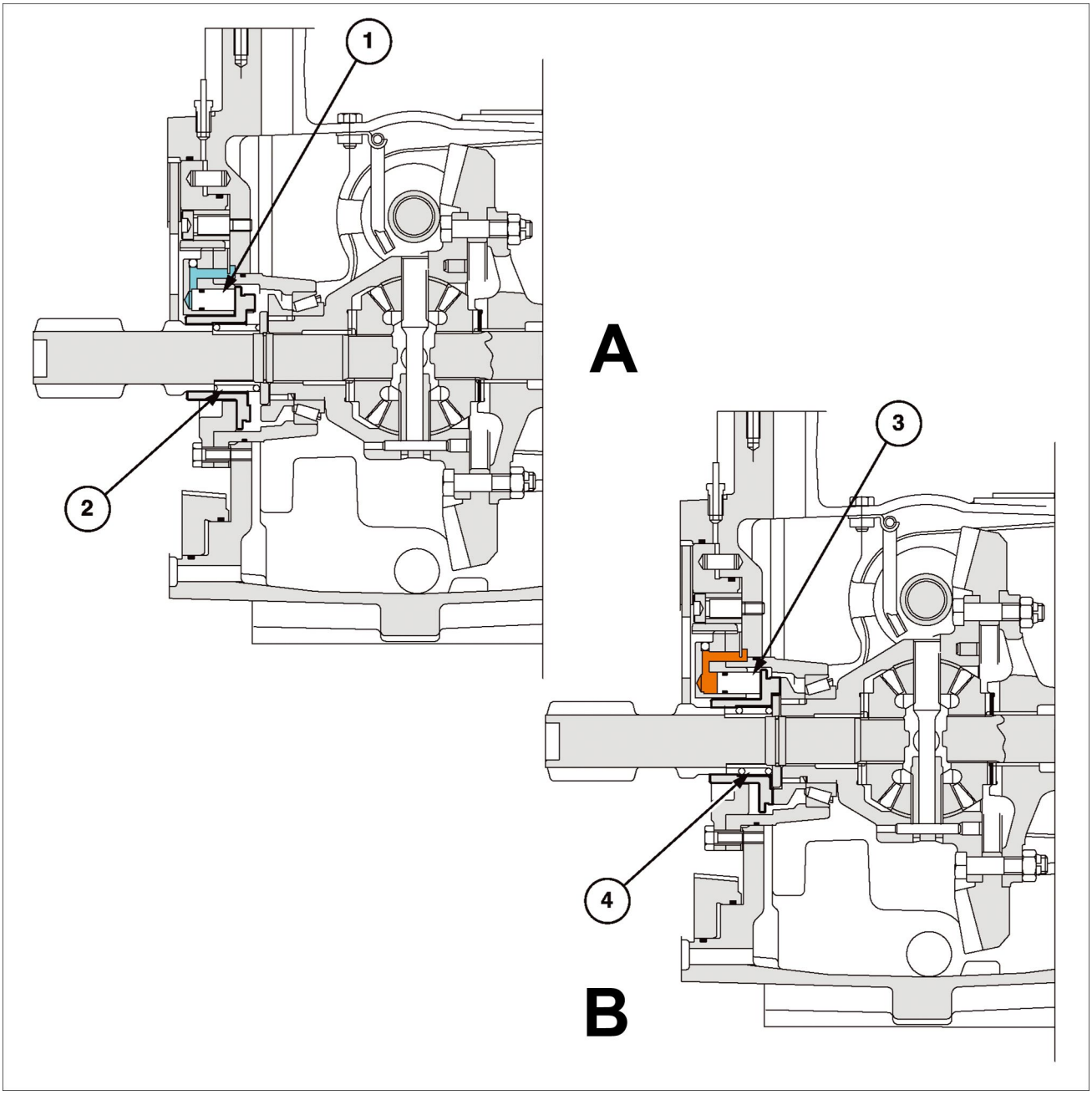


BVE0393A 38

Next operation:
Connect the transmission to the rear axle, for further information refer to **Semi-Powershift transmission - Connect (21.111)**

Differential lock Dog clutch - Dynamic description

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT



SS09D218 1

A - Trapped oil (Rear differential lock disengaged)

B - Pressure oil (Rear differential lock engaged)

Final drive housing - Install

MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT
MAXXUM CVT Tier IV Efficient Power	INT

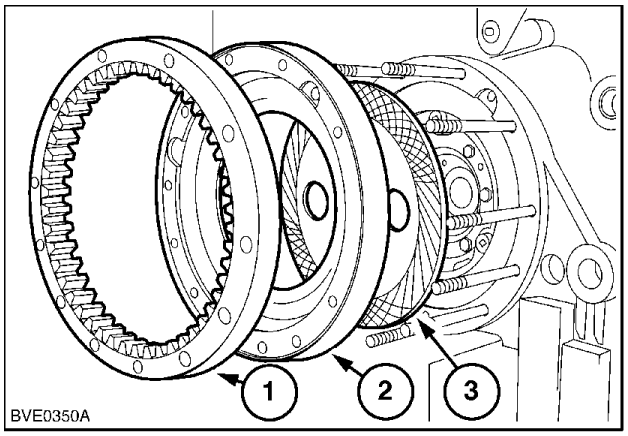
Prior operation:
Driving wheel shaft - Adjust (27.120)

⚠ **WARNING** ⚠

Lift and handle all heavy components using lifting equipment of appropriate lifting capacity. Make sure that units or parts are supported by suitable slings or hooks. Make sure that no-one is in the vicinity of the load to be lifted. Failure to comply could result in serious injury or death.

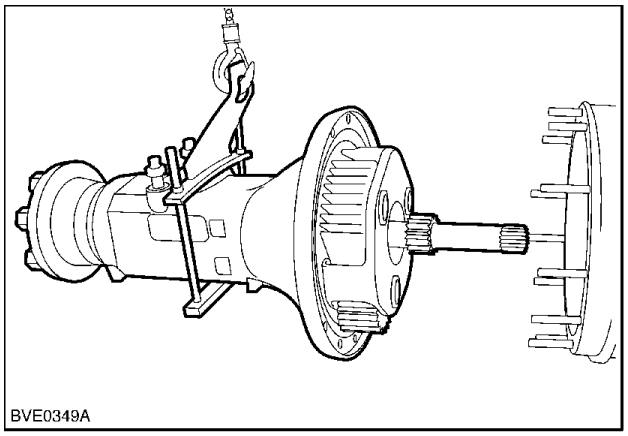
B012

1. Install the friction disc **(3)**, steel plate **(2)** and the outer ring gear **(1)**.



BVE0350A 1

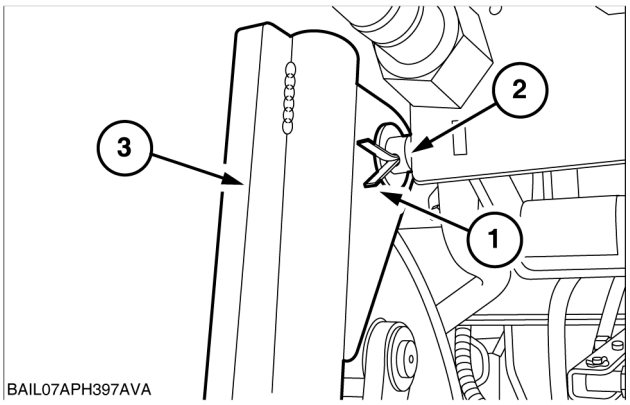
2. Install Special tool **380001113** and install the final drive assembly together with the half-shaft.



BVE0349A 2

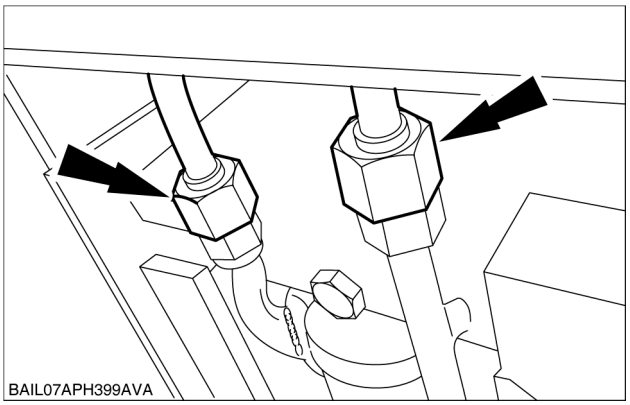
8. Remove the split pin **(1)**, remove the upper retaining pin **(2)** and remove the automatic pick-up hitch lift rod.

NOTE: *Repeat this step for the right-hand side.*



BAIL07APH397AVA 8

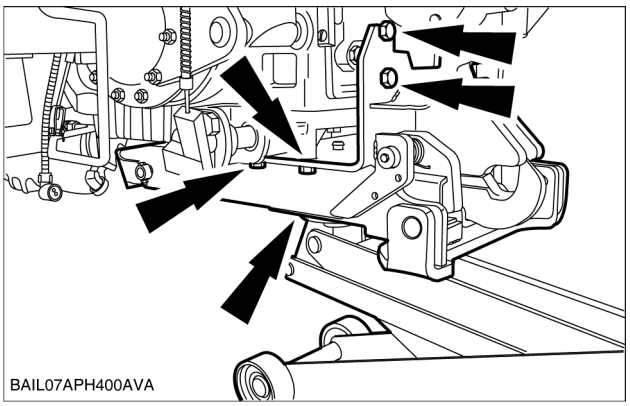
9. Disconnect the extending drawbar hydraulic supply and return pipes.



BAIL07APH399AVA 9

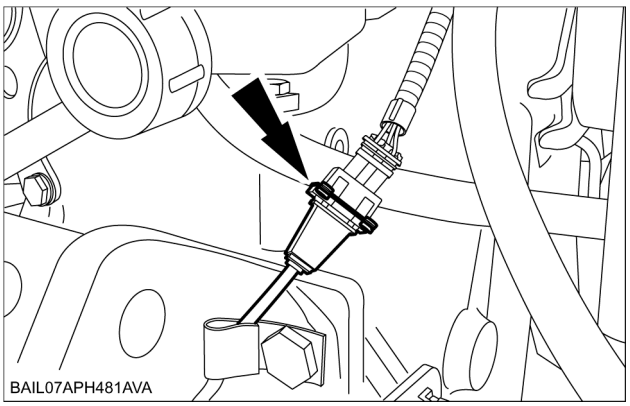
10. Support the extending drawbar and remove the retaining bolts.

NOTE: *Repeat this step for the right-hand side.*



BAIL07APH400AVA 10

11. Remove the extending drawbar assembly.
12. Disconnect the power take off (PTO) speed sensor electrical connector.



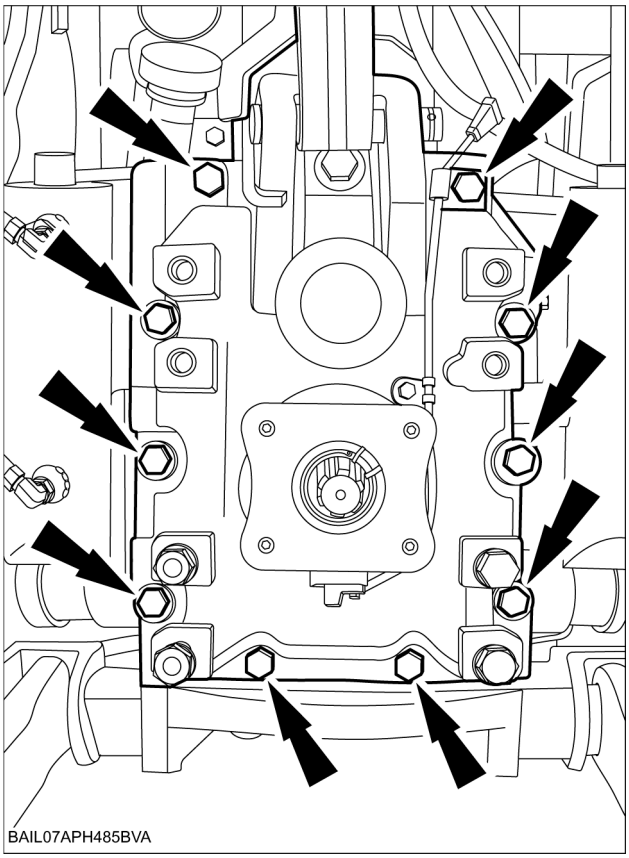
BAIL07APH481AVA 11

2. Install the power take off (PTO) housing.

⚠ WARNING ⚠

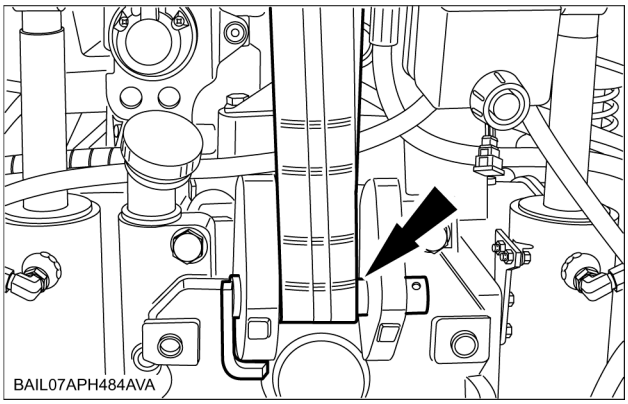
Always use suitable tools to align holes. DO NOT USE HAND OR FINGERS.

B020



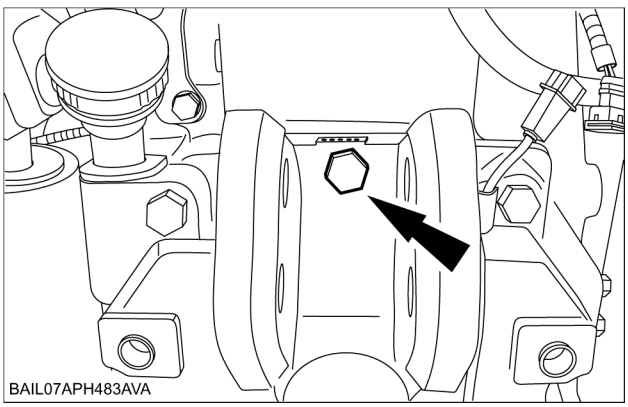
BAIL07APH485BVA 2

3. Remove the support from the PTO housing. Tighten to **211 Nm** (**155 lb ft**).



BAIL07APH484AVA 3

4. Install the top central PTO housing retaining bolt. Tighten to **211 Nm** (**155 lb ft**).



BAIL07APH483AVA 4

Front Power Take-Off (PTO) housing - Install

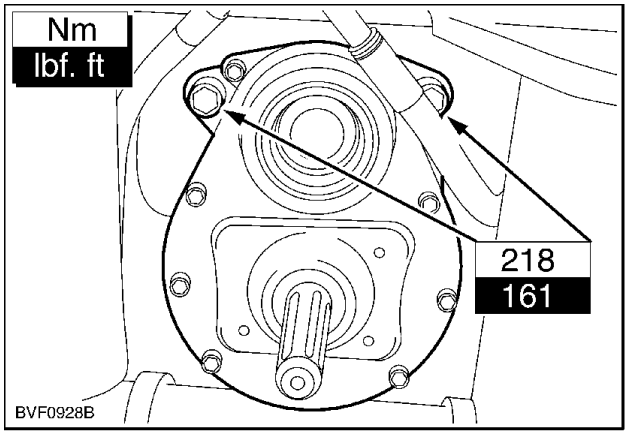
MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT
MAXXUM CVT Tier IV Efficient Power	INT

⚠ WARNING ⚠

Handle all parts carefully. Do not put your hands or fingers between parts. Wear suitable safety clothing - safety goggles, gloves and shoes.

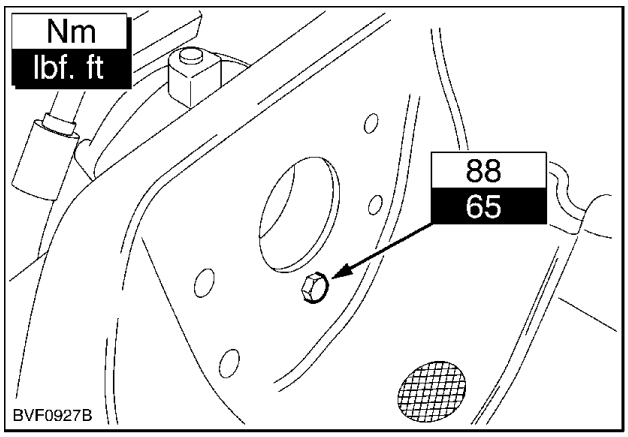
B026

1. Install the PTO reduction gearbox and the retaining bolts. Tighten the retaining bolts to the specified torque value.



BVF0928B 1

2. Install the PTO rear retaining bolt. Tighten to the specified torque value.

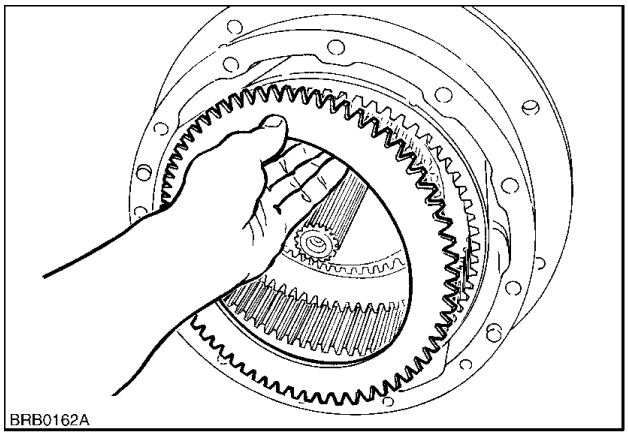


BVF0927B 2

DIAGNOSTIC

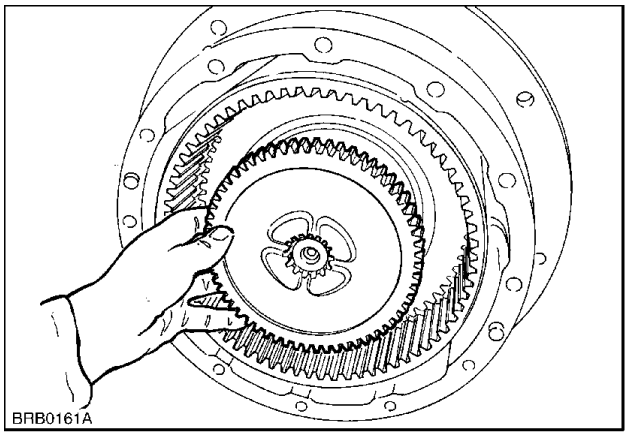
Parking brake or parking lock

7. Install the inner brake disc into the ring gear.



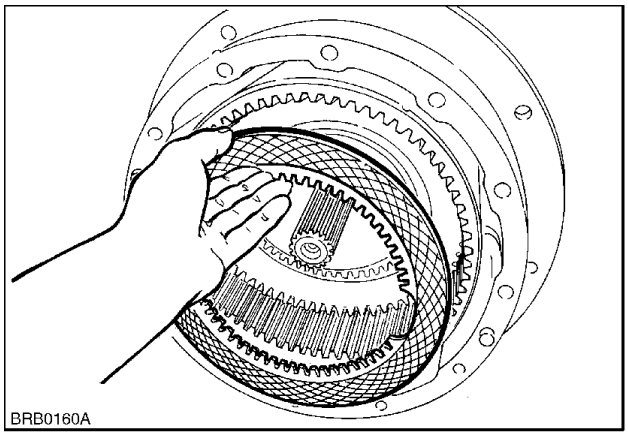
BRB0162A 7

8. Install the friction disc drive plate onto the driveshaft.



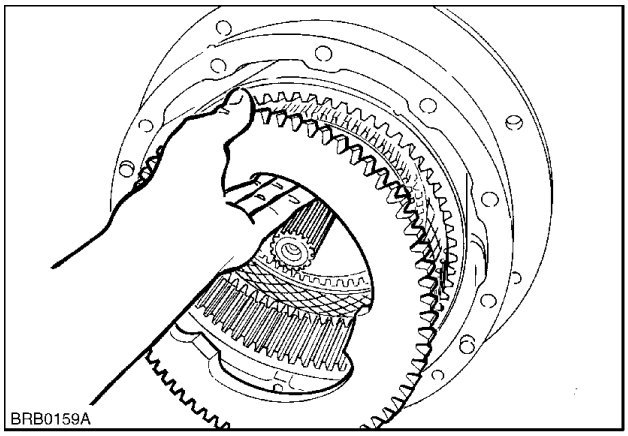
BRB0161A 8

9. Install the friction disc.



BRB0160A 9

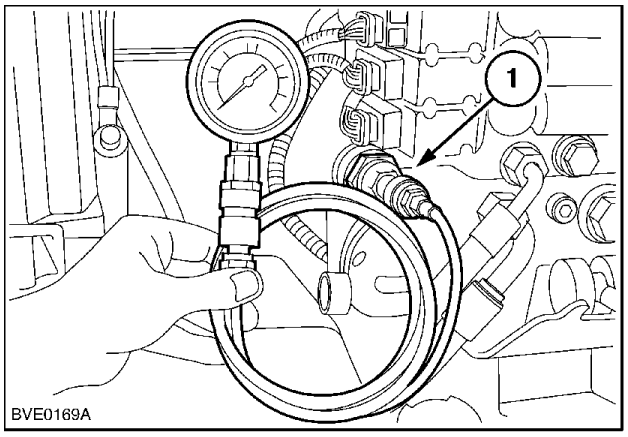
10. Install the outer brake disc into the ring gear.



BRB0159A 10

PARKING BRAKE ENGAGEMENT TEST (ITALIAN TRAILER BRAKES ONLY)

14. Insert fitting **380000550 (1)** in trailer brake coupler and connect it to a **0 - 40 bar** (**0 - 580 psi**) pressure gauge **380000552**, using the quick release coupler **380000543** and the hose **380000545**.

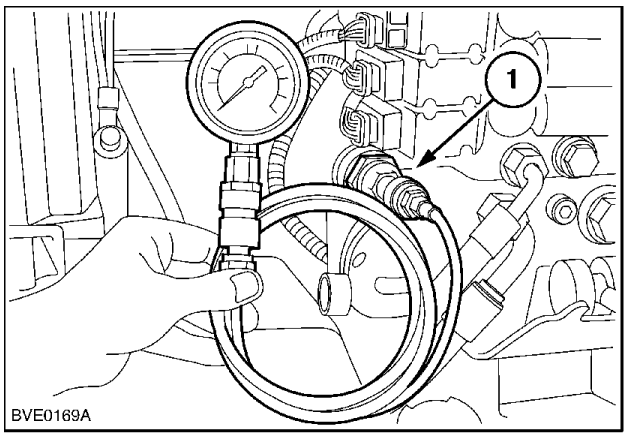


BVE0169A 4

15. With engine and oil in the conditions described at the beginning of this chapter, fully raise parking brake control lever.
16. Check if pressure is **0 bar** (**0 psi**) and light indicator is on.
17. If the pressure is not **0 bar** (**0 psi**) check the system as described in **Trailer brake valve - Troubleshooting (Italian Trailer brake) (33.220)**.
18. With the parking brake engaged disconnect pressure gauge and fitting **380000550 (1)**.

TRAILER BRAKE CIRCUIT SAFETY SWITCH TEST (ITALIAN TRAILER BRAKES ONLY)

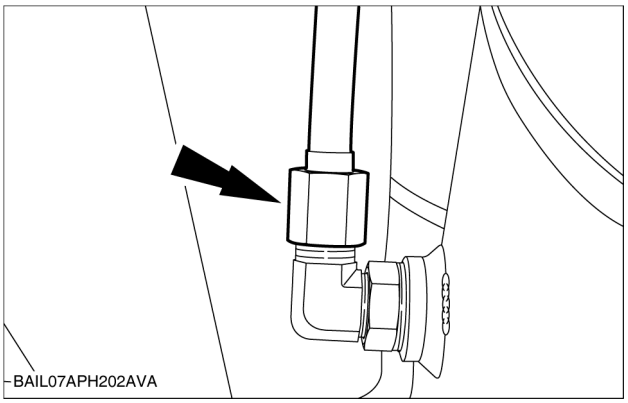
19. Insert fitting **380000550 (1)** in trailer brake coupler and connect it to a **0 - 40 bar** (**0 - 580 psi**) pressure gauge **380000552**, using the quick release coupler **380000543** and the hose **380000545**.



BVE0169A 5

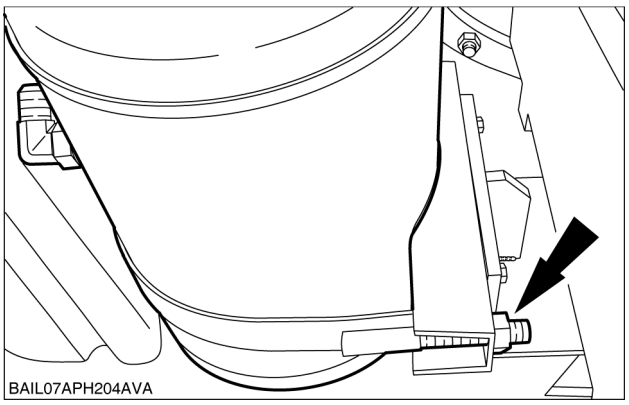
20. With the parking brake OFF and tractor brakes not applied, operate and hold the remote control valve lever and allow the system pressure relief valve to operate.
    Keep this position for a few seconds and quickly release the control lever.
21. Check if parking brake disengagement pressure remains at the specified value between **11 - 12 bar** (**160 - 174 psi**).
22. If the pressure is not **11 - 12 bar** (**160 - 174 psi**) check the system as described in **Trailer brake valve - Troubleshooting (Italian Trailer brake) (33.220)**.

8. Disconnect the balance pipe from the left-hand air tank.



BAIL07APH202AVA 6

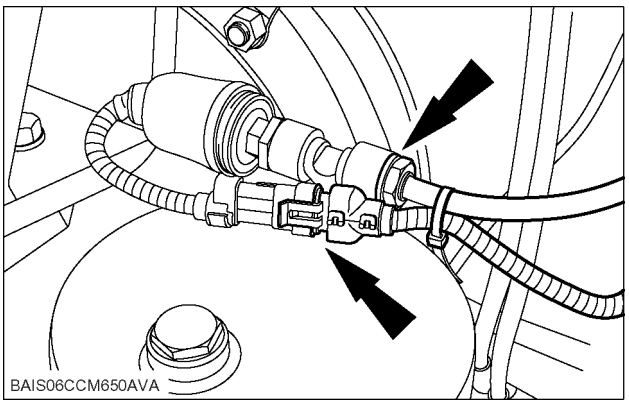
9. Remove the left-hand air tank.



BAIL07APH204AVA 7

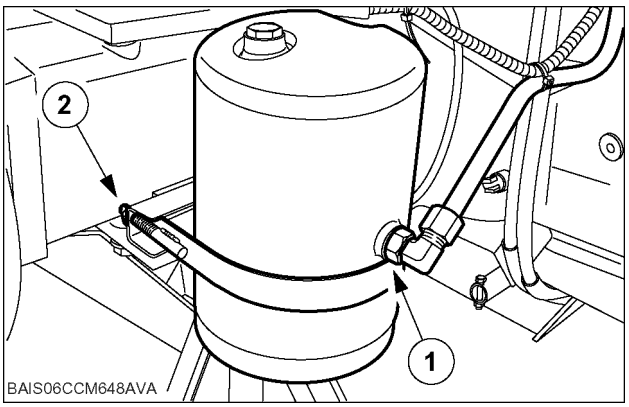
Right-hand air tank

10. Disconnect the electrical connector and the supply pipe.

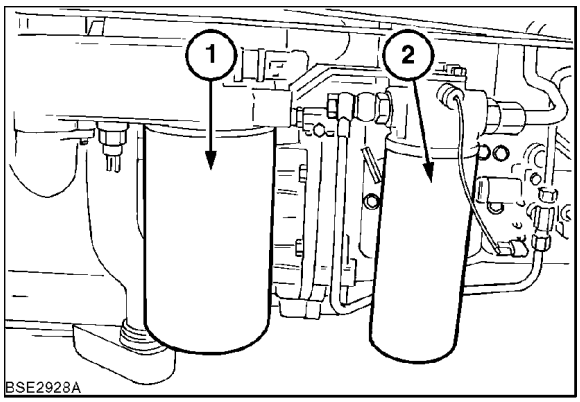


BAIS06CCM650AVA 8

11. Disconnect the balance pipe from the right-hand air tank **(1)** loosen the air tank retaining nut **(2)** and remove the right-hand air tank.

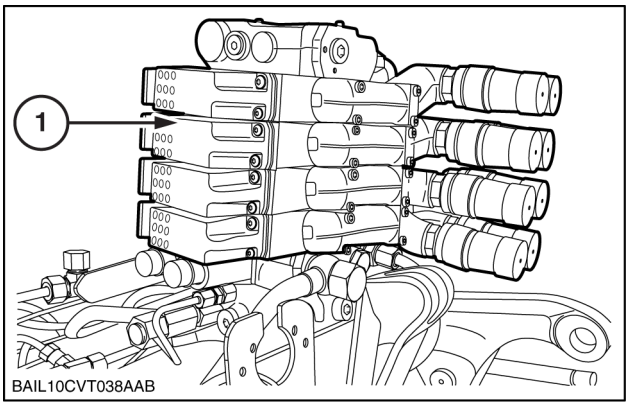


BAIS06CCM648AVA 9



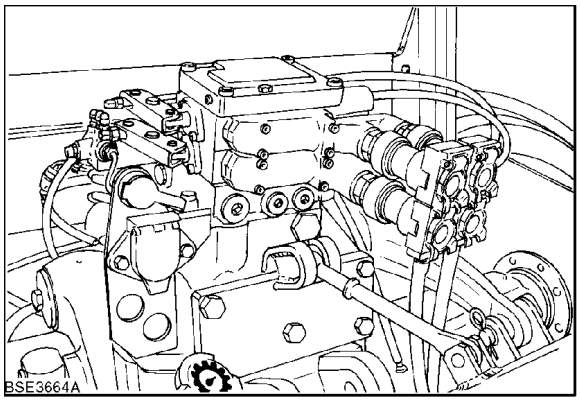
BSE2928A 8

Closed centre electro hydraulic remote valves **(1)** have a maximum **100 l/min** flow capacity per slice . The valve slices are available in either 3 or 4 valve configurations



BAIL10CVT038AAB 9

Mechanical remote valves have a flow of **72 - 80 l/min** depending on the operational pressure. The valves are used to operate external hydraulic cylinders, motors etc. Up to four remote control valves may be installed and are located at the rear of the tractor. All remote valves incorporate an automatic lock valve in the left- hand (raise) port to prevent inadvertent leak down of the implement.



BSE3664A 10

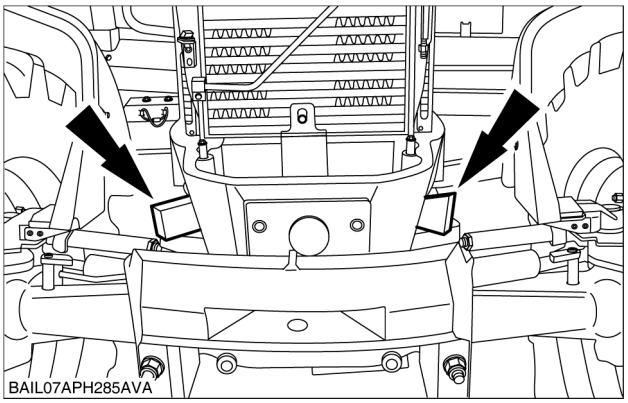
Number of valves	Configuration
2	2 Non Configurable
2	2 Configurable
3	1 Non Configurable + 2 Configurable
4	2 Non Configurable + 2 Configurable

All units have the option for ISO power beyond coupling.

5. 1. Raise the front of the vehicle.
   2. Remove the axle stands.
   3. Lower the front of the vehicle.
6. Check the transmission oil level.

Vehicles with standard axles

7. Remove the wooden wedges from between the front axle and front support.



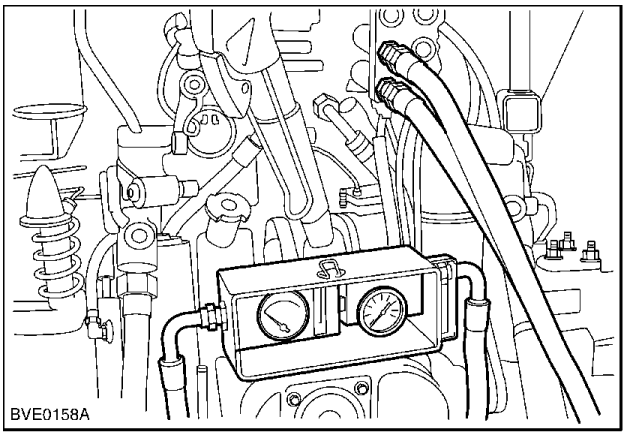
BAIL07APH285AVA 5

Vehicles with suspended axles

8. Calibrate the front axle, for further information refer to **Electronic module Universal controller - H1 - Calibration procedures (55.640)**.

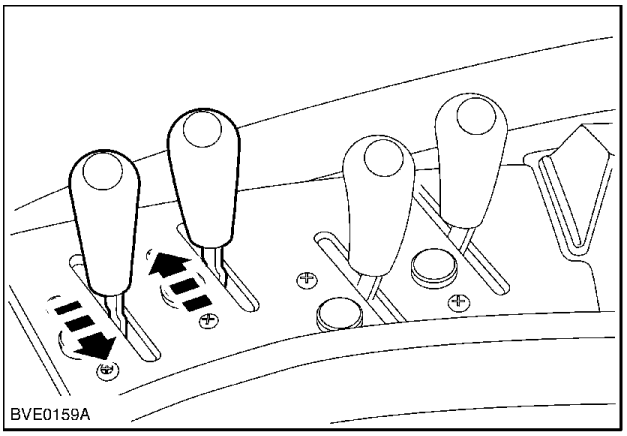
Next operation:
In stall the aftercooler, for further information refer to **Aftercooler - Install (10.310)**.

10. Install a **180 l/min** (**47.55 US gpm**) flow meter between the remote control valves number 1 and number 2. Ensure the inlet hose of the flow meter is installed into the extend port of valve number 1.
Fully open the load valve on the flow meter.
Set the hydraulic oil flow to maximum.

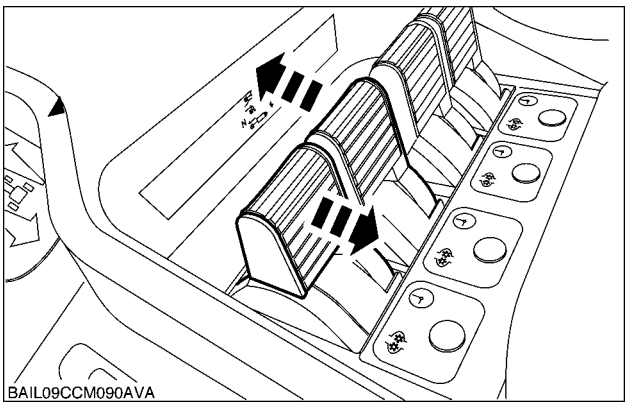


BVE0158A 10

11. Set the remote control valve number 2 in the `Float' position.
Set the remote control valve number 1 in the `Extend' position.
Set the engine speed to **1500 rev/min** to observe the system operation pressure or **2200 rev/min** for the maximum system pressure.



BVE0159A 11



BAIL09CCM090AVA 12

12. Move the remote control valve lever for the remote control valve number 1 between the extend and neutral position.

13. The following pressures should be observed:
• **2.1 - 2.9 bar** (**30.5 - 42 psi**)
If the pressure reading is below **2.1 bar** (**30.5 psi**) , replace the hydraulic oil filters and re-test.
If after re-test the charge pressure is still below the specification, check the supplementary lube valve, examine both the charge pressure filter dump valve and the charge pressure relief valve before disassembling the hydraulic oil pump to inspect for wear.

Single Remote Control Valve Operation - Lowering (Cylinder Retract)

1. Flow Control Spool
2. Metering Land
3. Flow Control Adjuster
4. Manually Adjusted Flow Control Restriction
5. Spool Centring and Detent Mechanism
6. Lower (Cylinder Retract) Port
7. Raise (Cylinder Extend) Port
8. Lock Valve
9. Pin
10. Main Control Spool
11. Load Hold Check Valve

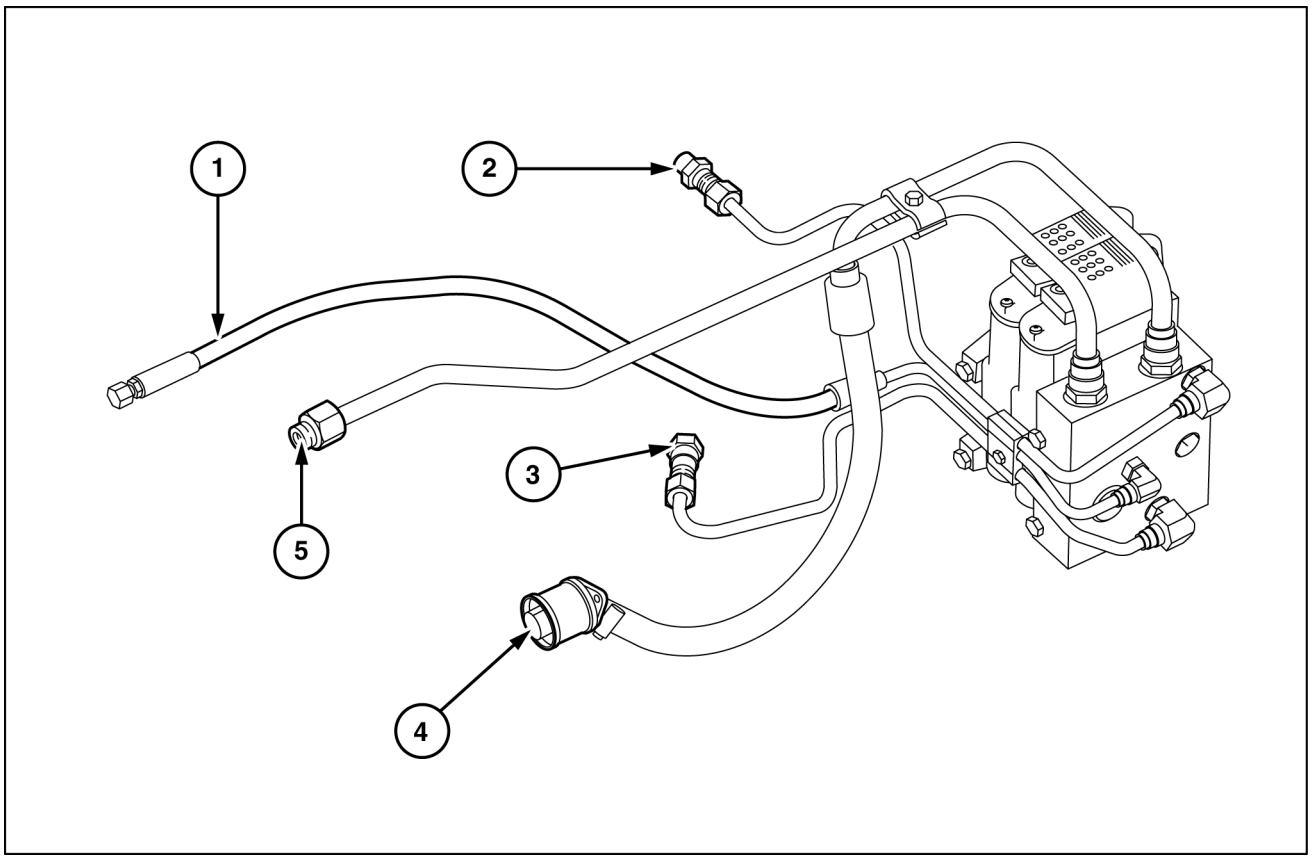
Pump Pressure

Remote Valve Operating Pressure

Return To Reservoir

Mid-mount remote control valve Electrohydraulic remote valve - Static description

MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 Multicontroller EP	INT



BAIL11APH206AFB 1

1. Load Sensing Hose
2. Pilot Return Line
3. Pilot Line Pressure Hose
4. Return Hose
5. High Pressure Supply Hose

Tractors equipped with the Mid Mount Valve option are fitted with an armrest mounted joystick, a mid mount valve assembly, plumbing and loader mounting brackets ready for attaching the loader arms.

The Mid Mount Valve assembly is located underneath the cab on the right hand side. The base version has a two spool valve for raising and lowering the boom and tipping and curling the bucket when used with a loader. Three and four valve options are also available.
The valves are operated by means of a joystick control mounted on the right hand armrest of the seat. For front loader operation an electronic joystick is utilised with a push button switch **(1)** mounted on the top side of the handle and a proportional paddle switch **(2)** mounted on the side of the handle for EHR control.

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Auxiliary hydraulic pump and lines - 220

Frames and ballasting - 39

Frame - 100

MAXXUM 110 EP , MAXXUM 110 Multicontroller EP , MAXXUM 115 EP , MAXXUM 115 Multicontroller EP , MAXXUM 120 EP , MAXXUM 120 Multicontroller EP , MAXXUM 125 EP , MAXXUM 125 Multicontroller EP , MAXXUM 130 EP , MAXXUM 130 Multicontroller EP , MAXXUM 140 EP , MAXXUM 140 Multicontroller EP , MAXXUM CVT 110 , MAXXUM CVT 120 , MAXXUM CVT 130

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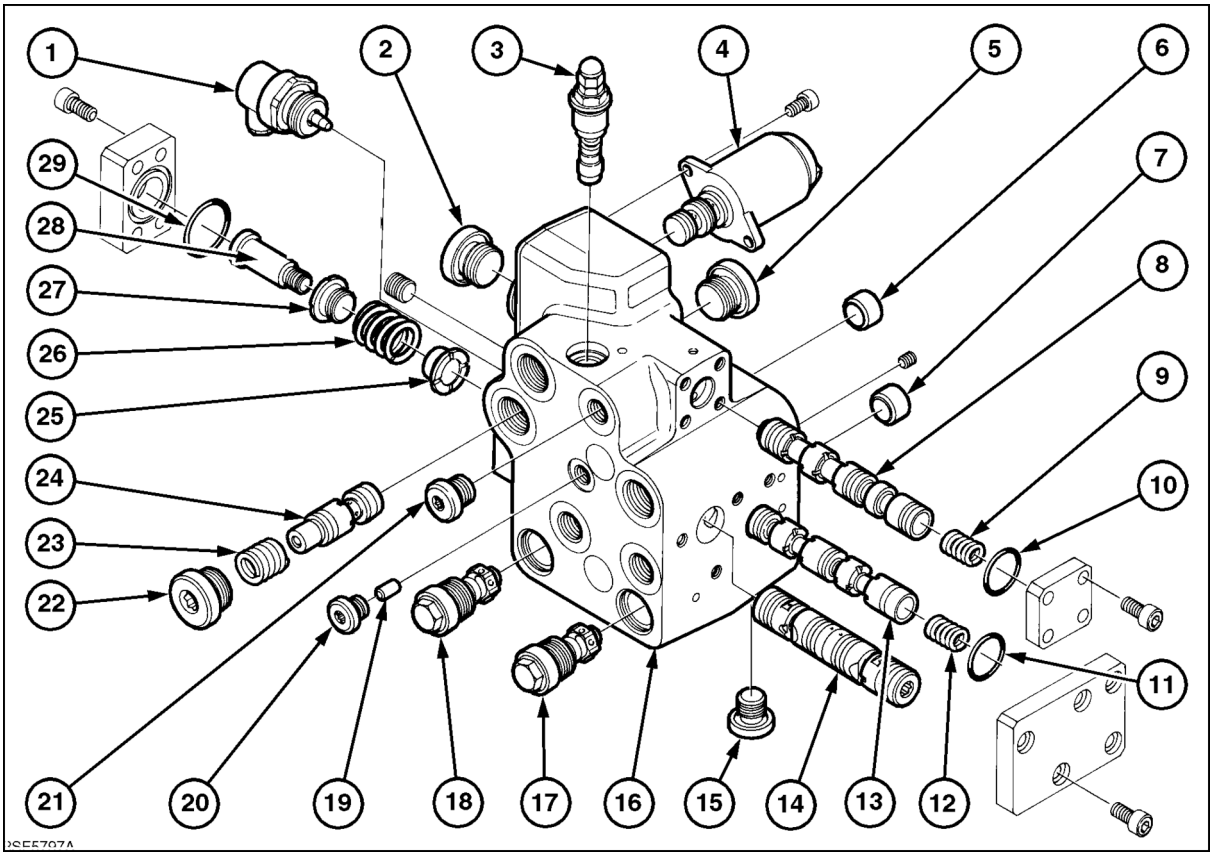
Steering - 41

Hydraulic control components - 200

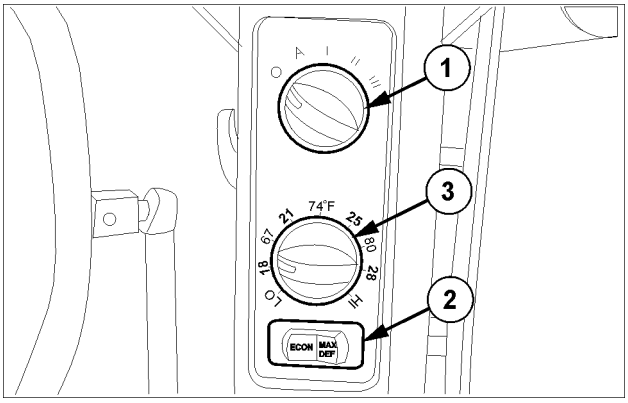


BAIL06CCM079FSA 1

Contents

Cab climate control - 50

Control elements



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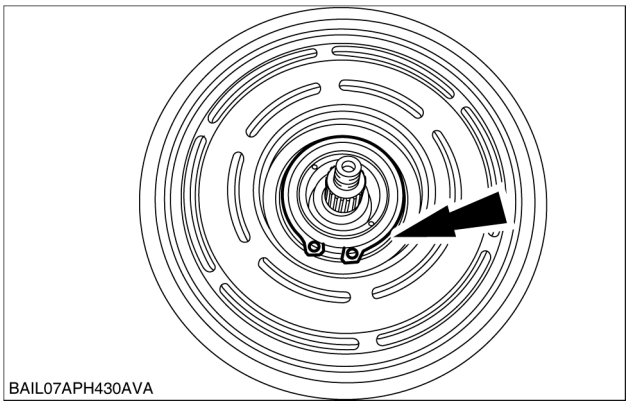
Blower speed switch **(1)**	Selecting the blower speed manually overrides the selection made by the control unit.	Position "0": Blower switched off Position "A": Blower speed is automatically controlled by the controller. Position "I": Slow blower speed Position "II": Middle blower speed Position "III": Fast blower speed
Operating mode switch **(2)**	Determines the operating mode.	Position "ECON": Air conditioner is switched off Position "Middle": Air conditioner is switched on Position "MAX DEF": Dehumidifier/defroster mode
Temperature control potentiometer **(3)**	Determines the desired value of the cab temperature.	Position "LO": Maximum cooling power temperature range position 18-28. Desired cab temperature in °C/°F. Position "HI": Maximum heating power

"AUTOMATIC" control mode

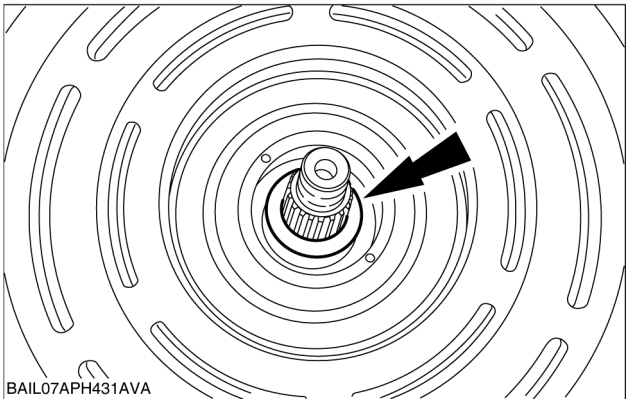
The automatic mode is selected by moving the blower speed switch **(1)** to position "A" automatic and the operating mode switch **(2)** to the middle position. Use the temperature control potentiometer **(3)** to set the desired temperature. In this mode the system attempts to maintain the desired temperature value selected by the driver (from **16 °C** (**61 °F**) to **32 °C** (**90 °F**) using the temperature control (ATC) and in order to do this varies the air temperature and the blower speed.

4. Insert bearing's circlip.



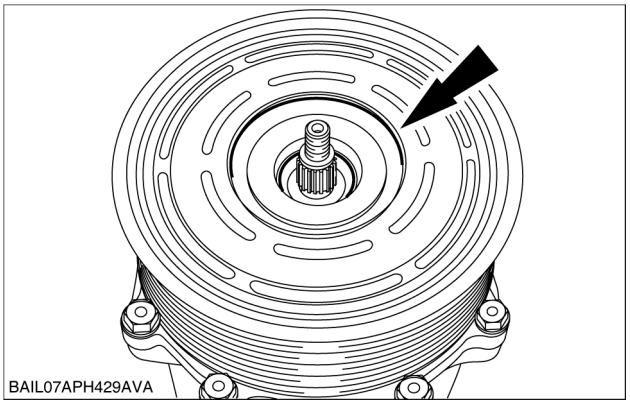
BAIL07APH430AVA 4

5. Place shims on compressor shaft.



BAIL07APH431AVA 5

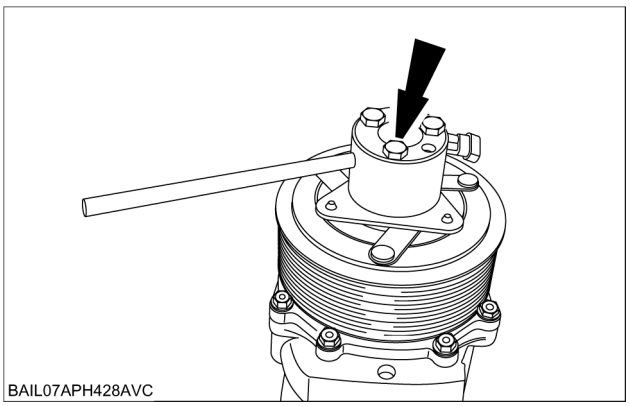
6. Insert a new dust protection ring.



BAIL07APH429AVA 6

7. Attach coupling plate.
   Attach the special tool (211-153/1, 211-153/2) to secure the coupling plate. Screw the locknut onto the drive shaft and tighten to **18 Nm** (**13 lb in**).

NOTE: *From .....→ pay attention to the woodruff key.*



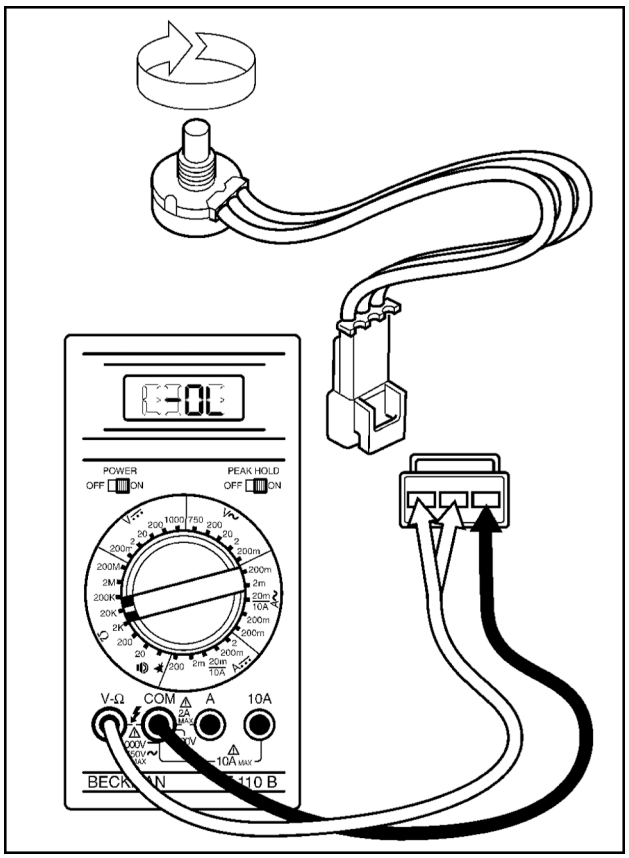
BAIL07APH428AVC 7

8. Measure the gap between the front plate of the coupling and belt pulley. The gap must be the same over the entire area and measure **0.4 - 0.8 mm** (**0.0157 - 0.0315 in**) .

Resistance test (testing an electrical component)

NOTE: *Nominal resistance values are usually valid for a temperature of* ***20 °C*** *(****68.00 °F****). With higher or lower tractor temperatures, the relative resistance values shown in the manual should vary accordingly.*

1. Disconnect the electrical component from the vehicle by unplugging the connectors to expose the component connector for testing.
2. Set the digital multimeter to resistance measurement **(Ohm)**. Measure the resistance in the circuit.
3. Insert the red and the black lead of the multimeter into the connector terminals (connector pins) as specified in the test procedure.
4. In order to verify the correct operation of a potentiometer, the resistance should be measured between the minimum and the maximum position. Therefore smoothly move the sliding contact between the minimum and the maximum position. Execute this measurement twice with the test leads in both connection possibilities (as illustrated).
5. In order to verify the correct operation of a switch, operate the switch while checking for an open circuit or a short circuit.
6. Compare the measured resistance values to the values specified in the test procedure.



SEZ55CAP9B-7 4

Code	Description	Frame
S-142	Rotating Beacon Switch	**Wire harnesses - Electrical schematic frame 40 (55.100)**
S-143	Rear Worklamp Switch	**Wire harnesses - Electrical schematic frame 40 (55.100)**
S-144	Front Worklamp Switch	**Wire harnesses - Electrical schematic frame 40 (55.100)**
S-145	Front Worklamps (Hood) Switch	**Wire harnesses - Electrical schematic frame 40 (55.100)**

SOLENOID

Code	Description	Frame
Y-001	Exhaust Brake Solenoid	**Wire harnesses - Electrical schematic frame 12 (55.100)**
Y-002	Suspension Raise Solenoid	**Wire harnesses - Electrical schematic frame 20 (55.100)**
Y-003	Suspension Lower Solenoid	**Wire harnesses - Electrical schematic frame 20 (55.100)**
Y-004	Upper Lockout Solenoid	**Wire harnesses - Electrical schematic frame 20 (55.100)**
Y-005	Lower Lockout Soleniod	**Wire harnesses - Electrical schematic frame 20 (55.100)**
Y-010	Hydrostat bypass valve	**Wire harnesses - Electrical schematic frame 12 (55.100)**
Y-011	High Pressure Pump Metering Valve	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-012	Electronic Draft Control Valve Raise	**Wire harnesses - Electrical schematic frame 17 (55.100)**
Y-013	Electronic Draft Control Valve Lower	**Wire harnesses - Electrical schematic frame 17 (55.100)**
Y-015	Change Valve Solenoid	**Wire harnesses - Electrical schematic frame 22 (55.100)**
Y-016	Front **PTO** Solenoid	**Wire harnesses - Electrical schematic frame 21 (55.100)**
Y-018	Rear **PTO** Brake Solenoid	**Wire harnesses - Electrical schematic frame 19 (55.100)**
Y-019	Rear **PTO** Solenoid	**Wire harnesses - Electrical schematic frame 19 (55.100)**
Y-021	Brake De-Icer	**Wire harnesses - Electrical schematic frame 47 (55.100)**
Y-022	Pneumatic Trailer Brake Solenoid	**Wire harnesses - Electrical schematic frame 47 (55.100)**
Y-023	Park Brake Solenoid	**Wire harnesses - Electrical schematic frame 47 (55.100)**
Y-030	Solenoid 17th Gear	**Wire harnesses - Electrical schematic frame 15 (55.100)**
Y-031	Solenoid 17th Gear - Dump Valve	**Wire harnesses - Electrical schematic frame 15 (55.100)**
Y-037	Hydraulic Trailer Brake Solenoid 1 / 2	**Wire harnesses - Electrical schematic frame 47 (55.100)**
Y-038	Diff Lock Solenoid	**Wire harnesses - Electrical schematic frame 15 (55.100)**
Y-040	**4WD** Solenoid	**Wire harnesses - Electrical schematic frame 15 (55.100)**
Y-044	**Auto Guidance** Dump Solenoid	**Wire harnesses - Electrical schematic frame 27 (55.100)**
Y-045	**DEF/ADBLUE** Heating control Valve	**Wire harnesses - Electrical schematic frame 14 (55.100)**
Y-046	**DEF/ADBLUE** Injection Valve	**Wire harnesses - Electrical schematic frame 14 (55.100)**
Y-050	**Auto Guidance** Turn Right Solenoid	**Wire harnesses - Electrical schematic frame 27 (55.100)**
Y-051	**Auto Guidance** Turn Left Solenoid	**Wire harnesses - Electrical schematic frame 27 (55.100)**
Y-052	Heating Valve	**Wire harnesses - Electrical schematic frame 29 (55.100)**
Y-061	Injector, No.1 Cylinder	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-062	Injector, No.2 Cylinder	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-063	Injector, No.3 Cylinder	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-064	Injector, No.4 Cylinder	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-065	Injector, No.5 Cylinder	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-066	Injector, No.6 Cylinder	**Wire harnesses - Electrical schematic frame 13 (55.100)**
Y-074	Solenoid Clutch C3	**Wire harnesses - Electrical schematic frame 15 (55.100)**
Y-075	Solenoid Clutch C4	**Wire harnesses - Electrical schematic frame 15 (55.100)**
Y-082	Air Condition Clutch	**Wire harnesses - Electrical schematic frame 29 (55.100)** **Wire harnesses - Electrical schematic frame 30 (55.100)**

ASSEMBLY

Code	Description	Frame
Z-001	Blower Assembly	**Wire harnesses - Electrical schematic frame 29 (55.100)**
Z-002	Fuse block	**Wire harnesses - Electrical schematic frame 01 (55.100)** **Wire harnesses - Electrical schematic frame 02 (55.100)** **Wire harnesses - Electrical schematic frame 03 (55.100)** **Wire harnesses - Electrical schematic frame 04 (55.100)** **Wire harnesses - Electrical schematic frame 05 (55.100)** **Wire harnesses - Electrical schematic frame 06 (55.100)** **Wire harnesses - Electrical schematic frame 07 (55.100)**

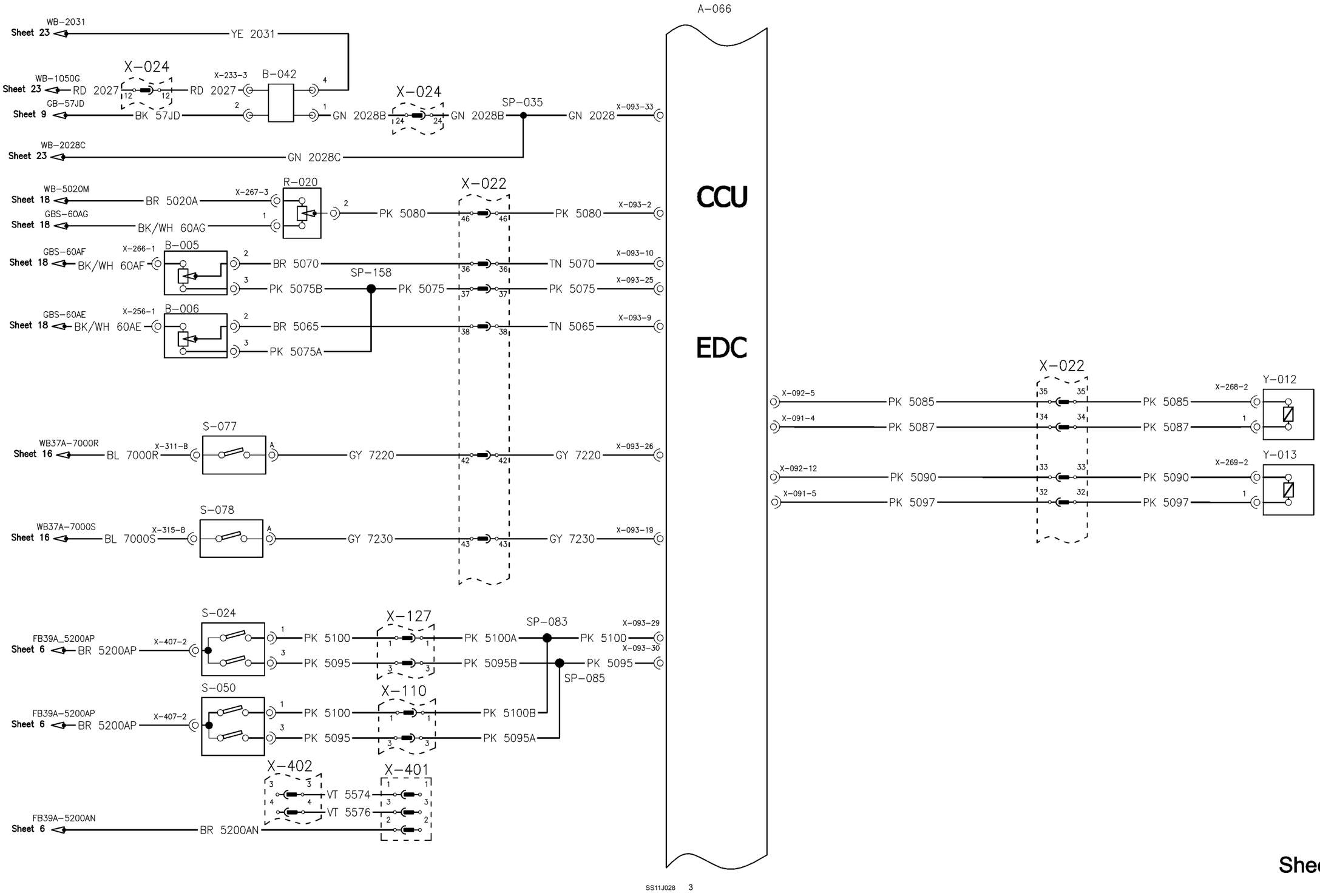
Wire harnesses - Electrical schematic frame 11 START/CHARGING (LESS Battery Isolator)

MAXXUM 110 - 140 Multicontroller EP

Component	Connector	Description
F-100	**X923**	Supply Memory
F-101	**X924**	Reserve
G-001	**X605**, **X608**, **X815**, **X890**, **X892**	**12 V** Battery
G-002	**X236**, **X237**	Alternator
M-003	**X231**, **X232**	Starter Motor
PF1	**X920**	Power Fuse, Main Power Supply B+ (**250 A**)
PF2	**X921**	Power Fuse, Power Supply **UCM**, **PTO** rear, **ICU3**
PF8	**X823**	Mega Fuse, Grid & Fuel Heater (**125 A**)
PF9	**X922**	Power Fuse, Power Supply **SCR** System
Additional Connectors: **X021**, **X023**, **X902**		

Wire Color Codes

BK Black	**GN** Green	**PK** Pink	**BL** Blue
TN Light Brown	**BR** Brown	**OR** Orange	**LG** Light Green
RD Red	**GY** Grey	**LB** Light Blue	
WH White	**YE** Yellow	**VT** Violet	



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Sheet 17

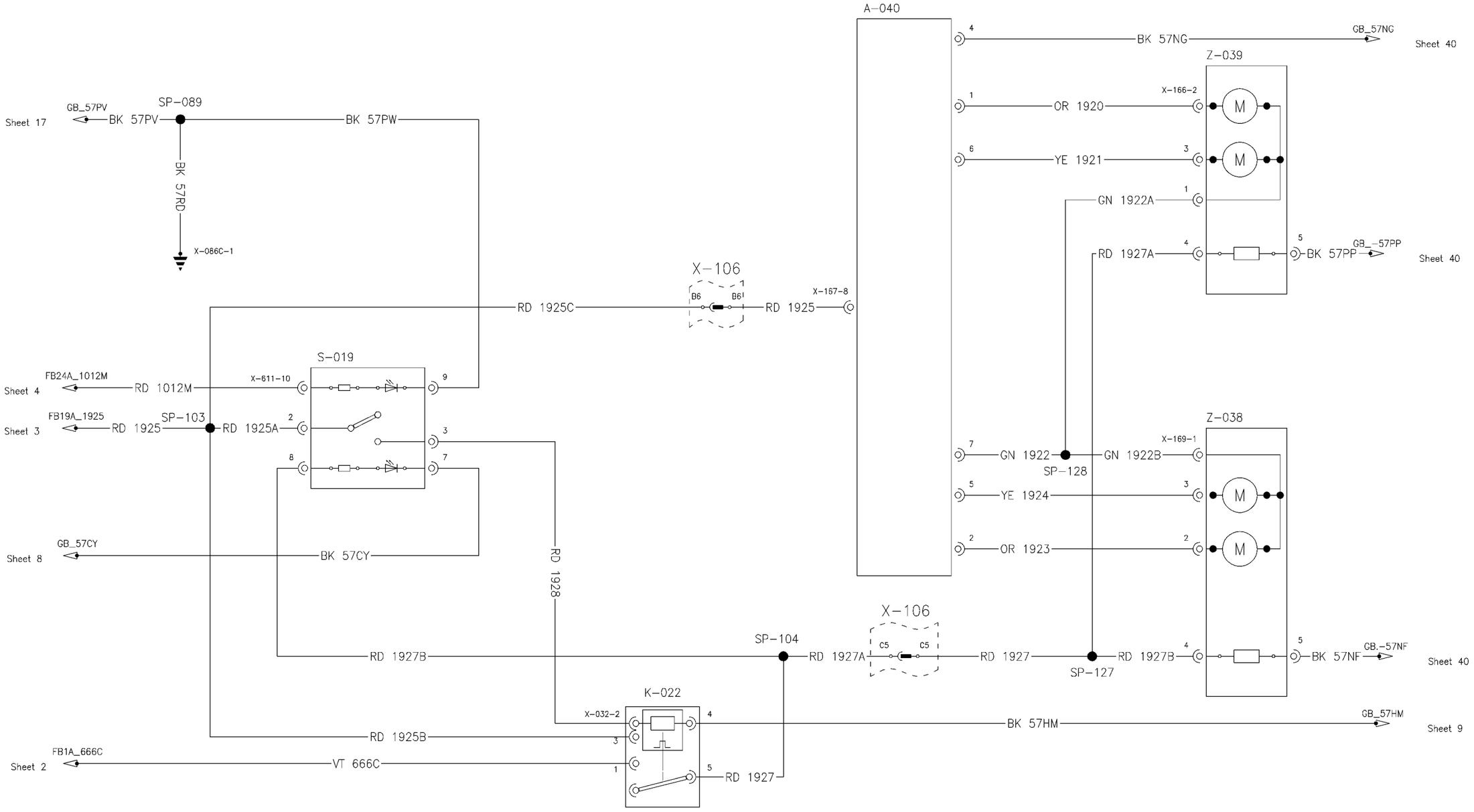
Wire harnesses - Electrical schematic frame 24 INSTRUMENT CLUSTER

MAXXUM 110 - 140 Multicontroller EP

Component	Connector	Description
A-063	**X005**, **X009**	Instrument Cluster Unit
S-022	**X223**, **X224**	Air Cleaner Switch
S-028	**X474**	Hydraulic Filter Blocked (Vacuum Switch)
S-037	**X260**	Low Hydraulic Charge Switch
Additional Connectors: **X020**, **X026**, **X762**		

Wire Colour Codes

BK Black	**GN** Green	**PK** Pink	**BL** Blue
TN Light Brown	**BR** Brown	**OR** Orange	**LG** Light Green
RD Red	**GY** Grey	**LB** Light Blue	
WH White	**YE** Yellow	**VT** Violet	



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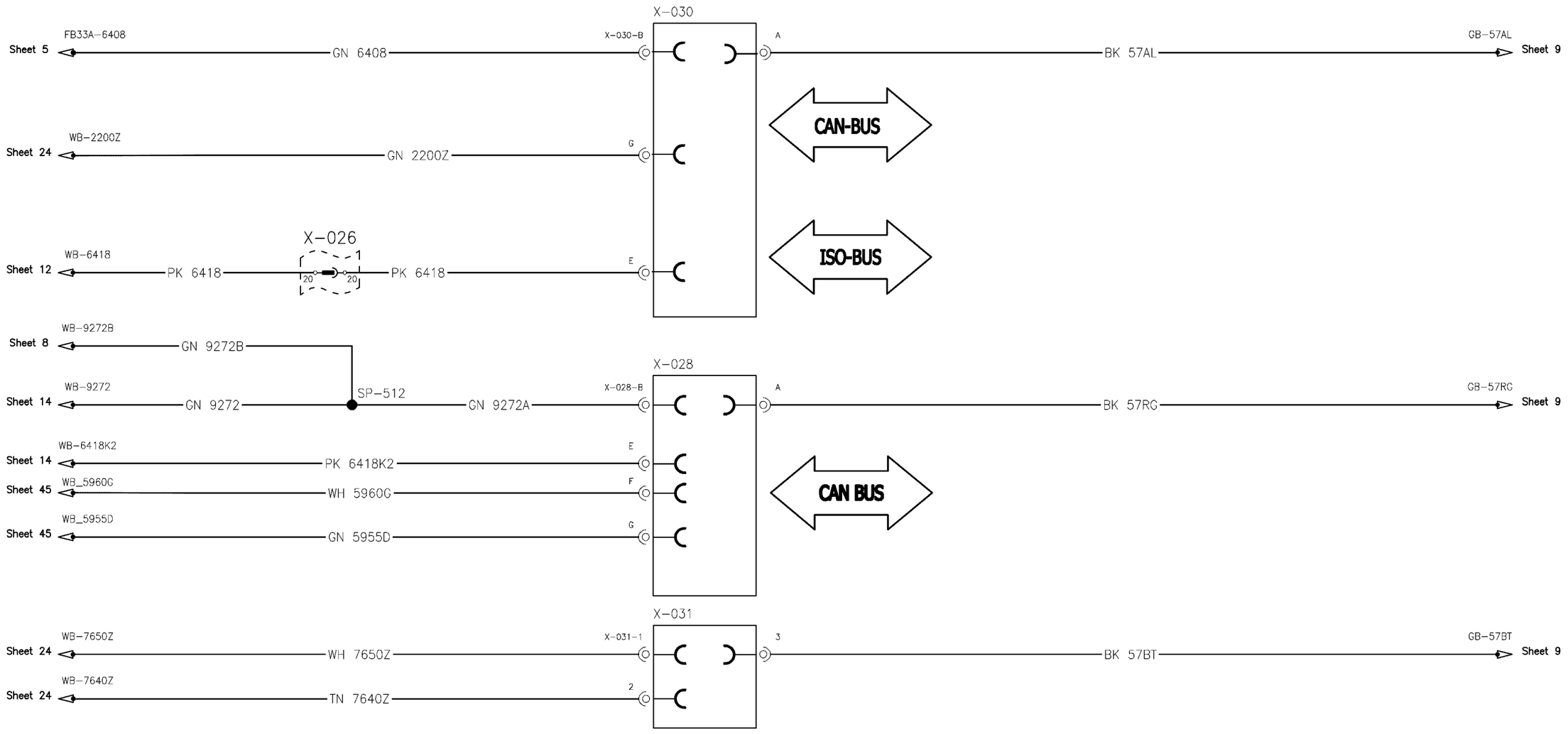
LOW ROOF

Component	Connector	Description
E-029	**X205**	Worklamp Front Upper Left Hand
E-030	**X196**	Worklamp Grabrail Left Hand
E-031	**X182**	Worklamp Rear Left Hand
E-032	**X173**	Worklamp Rear Right Hand
E-033	**X206**	Worklamp Front Upper Right Hand
E-034	**X164**	Worklamp Grabrail Right Hand
E-035	**X185**	Rotating Beacon Left Hand
E-036	**X170**	Rotating Beacon Right Hand
K-031	**X183**	Front Worklamp Relay
K-032	**X203**	Rotating Beacon Relay
K-033	**X204**	Rear Worklamp Relay
S-142	**X188**	Rotating Beacon Switch
S-143	**X199**	Rear Worklamp Switch
S-144	**X189**	Front Worklamp Switch
S-145	**X198**	Front Worklamps (Hood) Switch
Additional Connectors: **X106**		

Wire Color Codes			
BK Black	**GN** Green	**PK** Pink	**BL** Blue
TN Light Brown	**BR** Brown	**OR** Orange	**LG** Light Green
RD Red	**GY** Grey	**LB** Light Blue	
WH White	**YE** Yellow	**VT** Violet	



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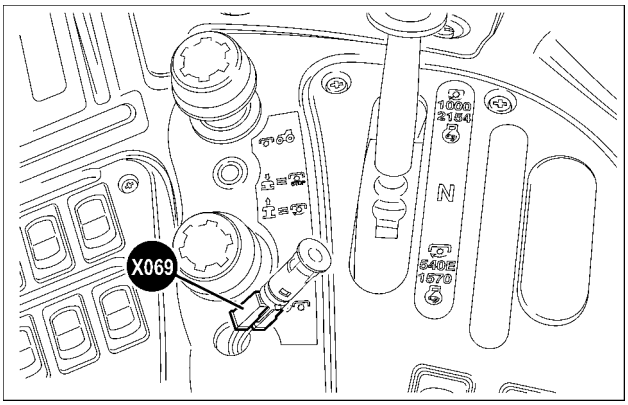
POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**GN**	29	MAIN FUEL SENDER SIGNAL
2	**RD**	1013	RIGHT HAND LAMPS
3	**RD**	1014	LEFT HAND LAMPS
4	**GN**	810	STOPLAMPS
5	**TN / GN**	350 / 349	TRAILER TURN LAMPS RH
6	**TN / YE**	349 / 350	TRAILER TURN LAMPS LH
7	**YE**	7412	-
8	**GN**	7525	TRANS SENSOR SUPPLY 5v
9	**RD**	7160	HYD LOW CHARGE WARNING
10	**RD / PK**	7981 / 7985	SOLENOID VALVE HYDROSTAT PLUS / TRANS REVERSE RANGE
11	**WH**	2055	PTO SYNCHRO GROUND SPEED ENGAGED
12	**GN**	2095	INSTRUMENT SIGNAL GROUND
13	**BL / -**	7230 / -	NOT USED
14	**BL**	7582 / -	NOT USED
15	**PK / -**	7407 / -	NOT USED
16	**OR**	3240	RAISE SOLENOID PWR
17	**VT / -**	9051 / -	NOT USED
18	**OR**	3260	LOWER SOLENOID PWR
19	**WH / -**	7408 / 8045	HYDROSTAT 1 SOLENOID GND / TRANS REV SOL RET
20	**TN**	8010	TRAILER BRAKE PRESSURE
21	**BR**	8000	TRAILER BRAKE SOLENOID
22	**BR**	8000	TRAILER BRAKE SOLENOID
23	**OR**	3280	SUSPENSION LOCKOUT SOLENOID UPPER
24	**TN**	8010	TRAILER BRAKE PRESSURE
25	**BK/WH**	60	SENSOR GROUND
26	**TN**	8020	TRAILER BRAKE PRESSURE
27	**BL**	8060	TRAILER BRAKE SUPPLY
28	**WH**	3500	POWER STEERING PRESSURE SIGNAL
29	**TN**	3285	SUSPENSION LOCKOUT SOLENOID LOWER
30	**GY**	5515	EHR +12V IGN.
31	**RD**	5500	EHR CAN HIGH
32	**BL**	5510	EHR CAN LOW
33	**WH / -**	4055 / -	NOT USED
34	**WH / -**	4056 / -	NOT USED
35	**WH / -**	4057 / -	NOT USED
36	**WH / -**	4058 / -	NOT USED
38	**WH / -**	4054 / -	NOT USED
39	**RD / BL**	5830	HIGH FLOW PUMP LINK
40	**RD / -**	8050 / -	NOT USED
41	**BL / -**	7770 / -	NOT USED
42	**GN**	7500	TRANS OIL TEMP. SENSOR
43	**YE / -**	7411 / -	NOT USED
44	**BR / -**	8000 / -	NOT USED
45	**YE**	7400	TRANS RPM SPEED SENSOR TO TCM INPUT
46	**YE**	7401	TRANS RPM SPEED SENSOR
47	**VT / -**	7581 / -	NOT USED
48	**BR**	7130	HYD FILTER WNG LP
49	**VT**	8070	TRAILER PARK BRAKE SOLENOID
50	VT / -	7135 / -	NOT USED
51	**YE**	2012	TRANS OIL PRESSURE WARNING LAMP

MAXXUM 110 - 140 EP

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**GN**	29	MAIN FUEL SENDER SIGNAL
2	**RD**	1013	RIGHT HAND LAMPS



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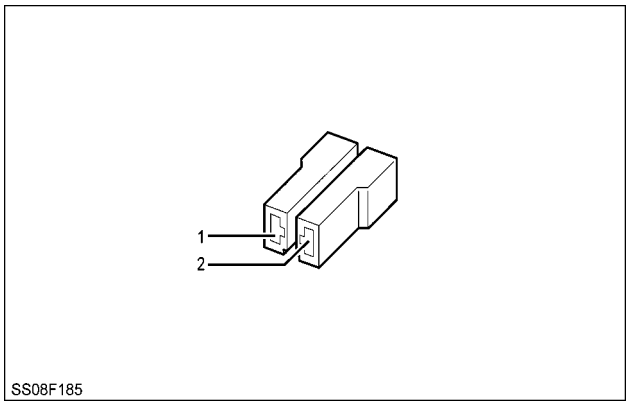

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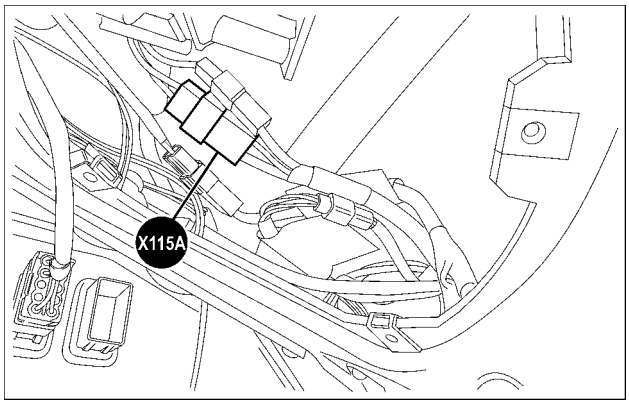
RIGHT HAND CONSOLE

MAXXUM 110 - 140 EP



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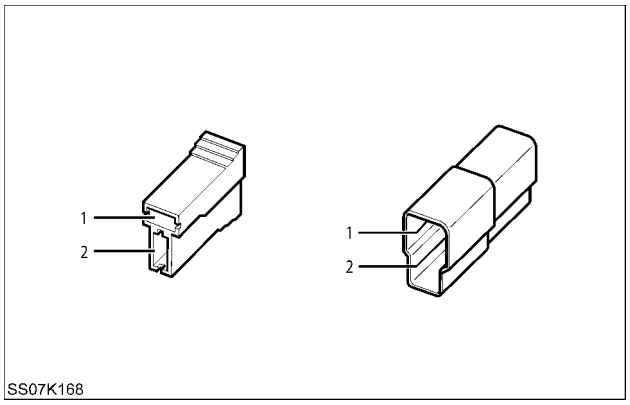

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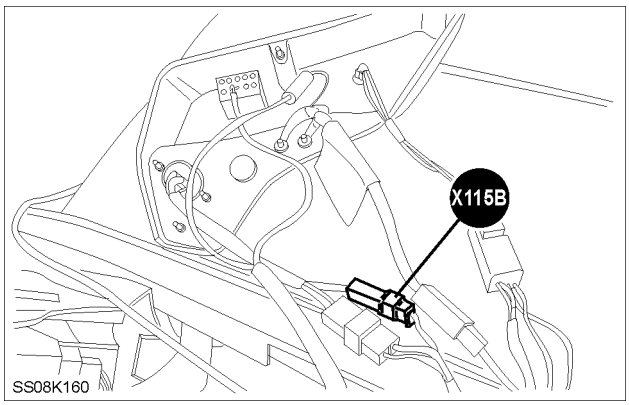
BEHIND RIGHT HAND SWITCH PANEL

X115B Power socket 30 Amp. — Cab inside

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**BK**	57	EARTH (ALL)

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

MAXXUM 110 - 140 Multicontroller EP Maxxum CVT 110 - 130



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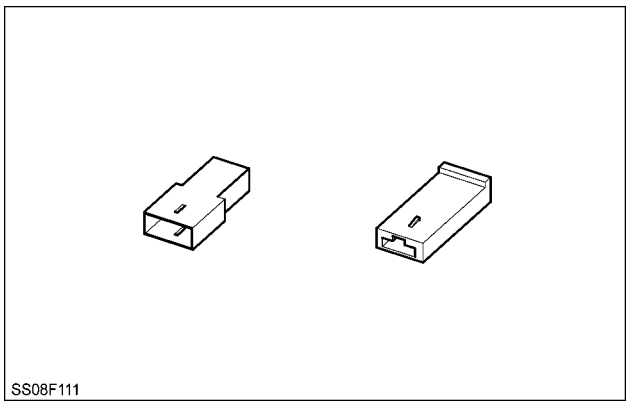

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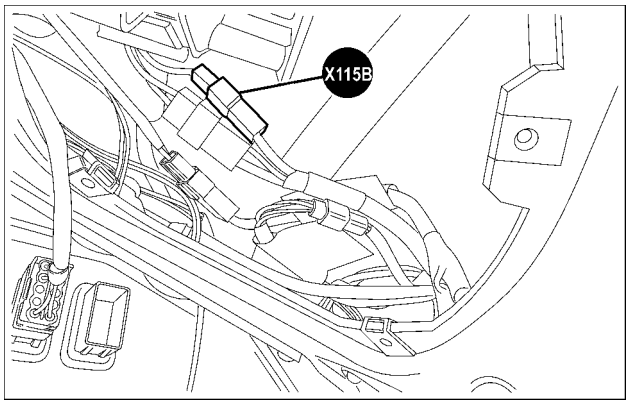
BEHIND RIGHT HAND SWITCH PANEL

MAXXUM 110 - 140 EP



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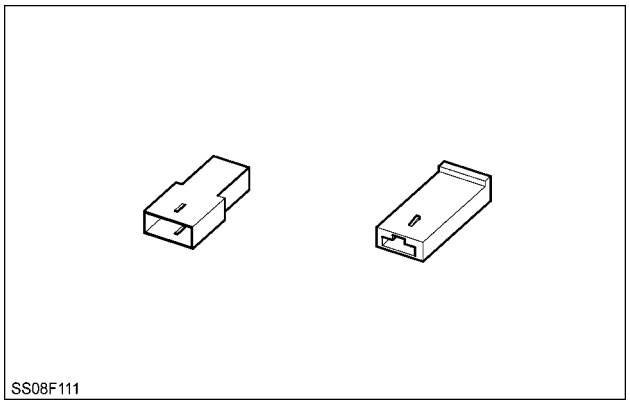

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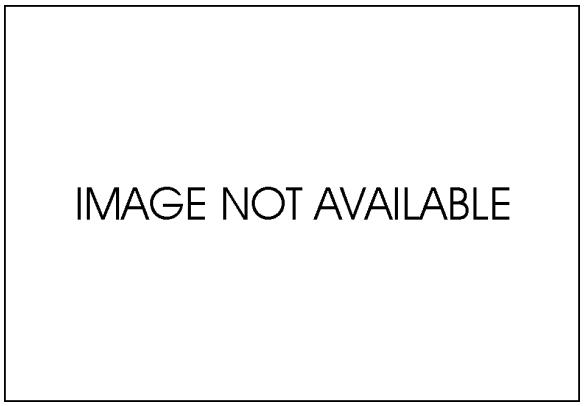
BEHIND RIGHT HAND SWITCH PANEL

X197A Front work light left-hand

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
-	-	-	-

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

HIGH ROOF



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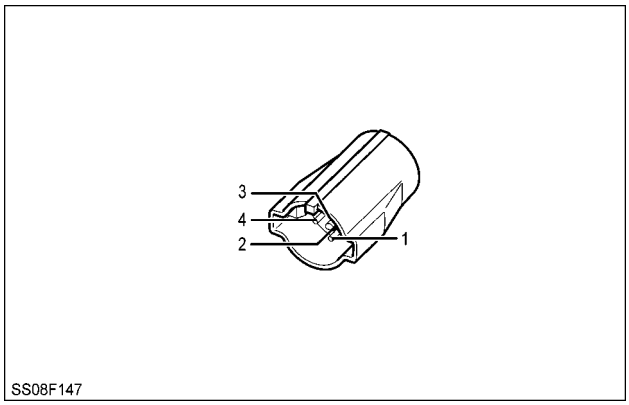

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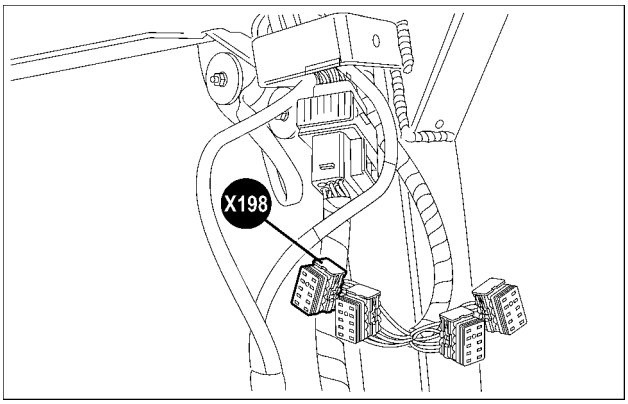
X198 Front Worklamps (Hood) Switch

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
2	**RD**	1013	RIGHT HAND LAMPS
3	**RD**	1092	FRONT WORKLAMP RELAY SIGNAL
7	**BK**	57	EARTH (ALL)

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

LOW ROOF



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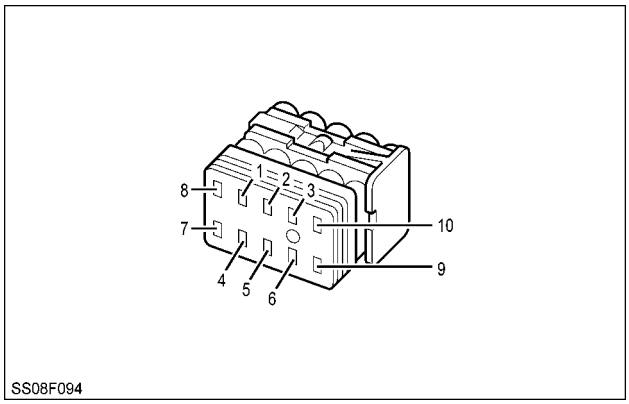

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REAR RIGHT HAND C-PILLAR

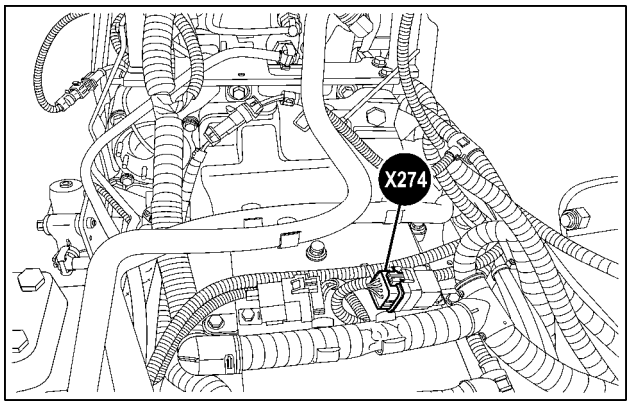
X199 Rear Worklamp Switch

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
2	**RD**	1013	RIGHT HAND LAMPS
3	**RD**	1090	REAR WORKLAMP RELAY SIGNAL
7	**BK**	57	EARTH (ALL)

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

Maxxum CVT 110 - 130



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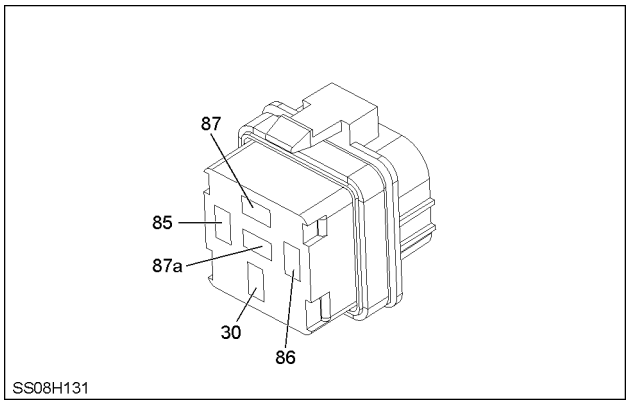

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top of the transmission

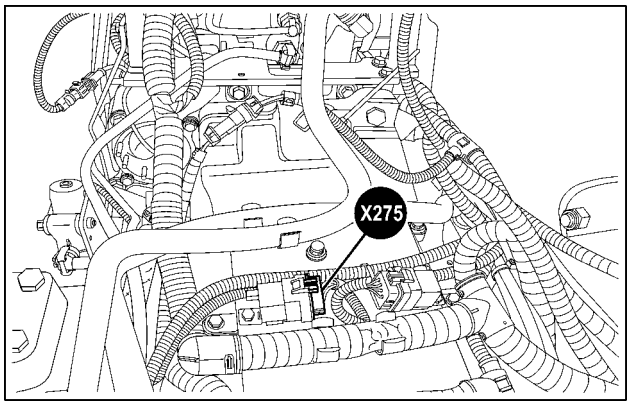
X275 Hydrostat bypass valve – Cranking relay

Maxxum CVT 110 - 130

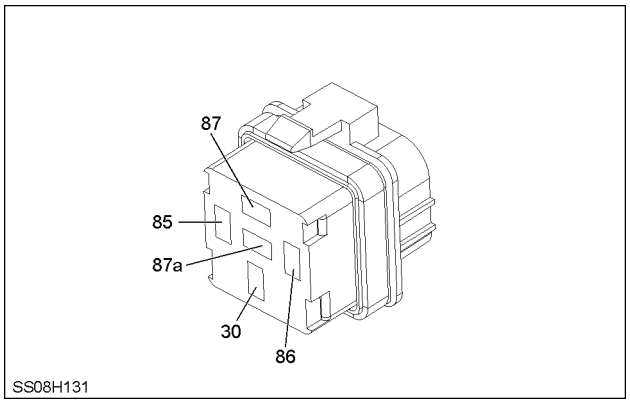
POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**OR**	9320	-
2	**BK**	57	EARTH (ALL)
4	**YE**	9321	-
5	**WH**	1001	STARTER SOLENOID FEED

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

Maxxum CVT 110 - 130



SVIL13TR00673AC 11



SS08H131 12

top of the transmission

X276 Diff. Lock Solenoid

16x16 Transmission

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**GN**	7080	DIFF-LOCK SOLENOID FEED
2	**BK**	57	EARTH (ALL)

24x24 Transmission

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**LG**	7080	DIFF-LOCK SOLENOID FEED
2	**BK**	57	EARTH (ALL)

Wire connectors - Component diagram 40

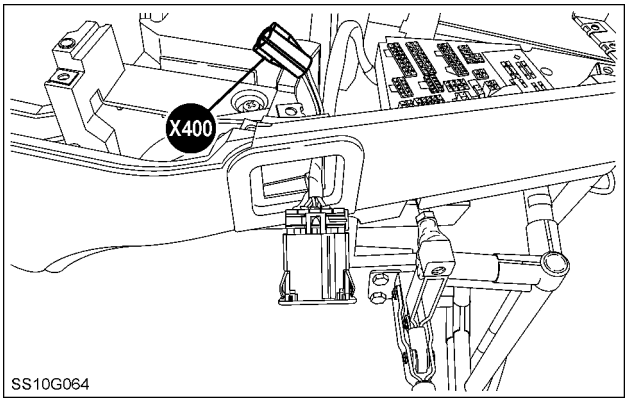
X400 Diverter solenoid valve – Control switch

MAXXUM 110 - 140 Multicontroller EP

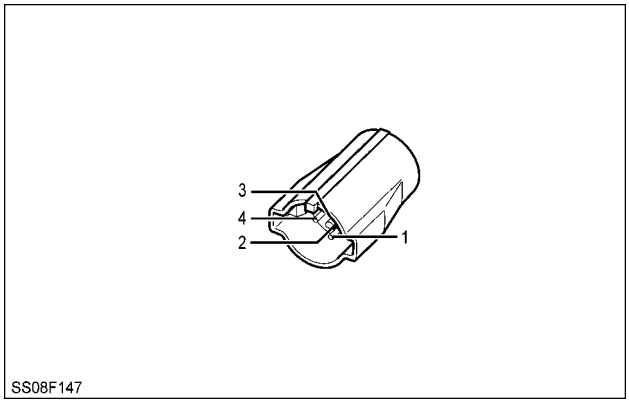
MAXXUM CVT 110 - 130

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
2	**GN**	181	BLOWER/GARU MOTOR FEED
4	**BR**	9000	DIVERTER VALVE

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*



SS10G064 1



SS08F147 2

INSIDE OF THE ARMREST UNIT

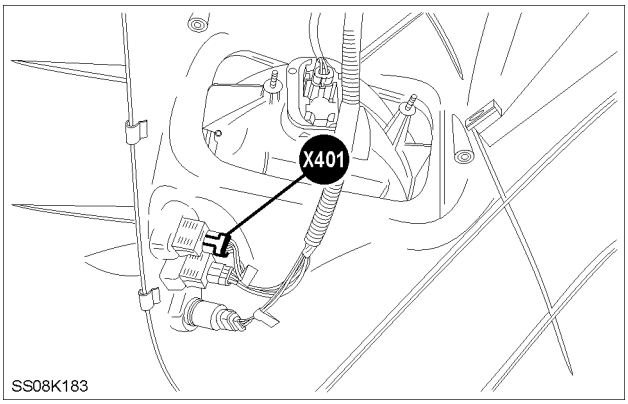
X401 Remote valve switch – Fender right-hand and left-hand

MAXXUM 110 - 140 Multicontroller EP

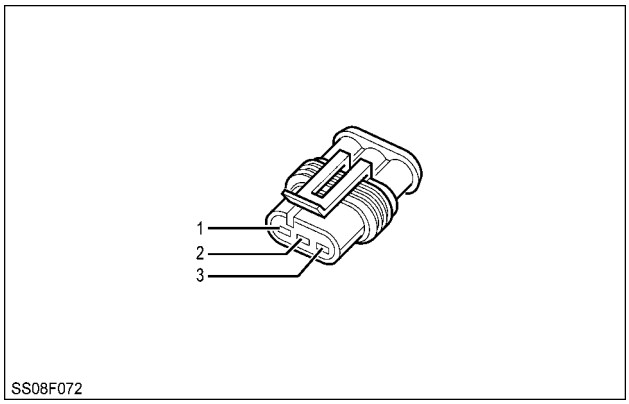
MAXXUM CVT 110 - 130

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**VT**	5574	FENDER 3RD EHR SWITCH – UP
2	**BR**	5200	EDC VALVE SUPPLY
3	**VT**	5576	FENDER 3RD EHR SWITCH – DOWN

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*



SS08K183 3



SS08F072 4

RIGHT HAND REAR FENDER

X507 Upper Lockout Solenoid

MAXXUM 110 - 140 Multicontroller EP

MAXXUM 110 - 140 EP

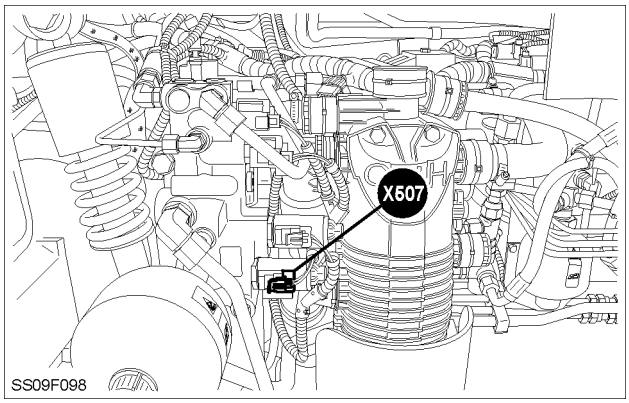
16x16 Transmission

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
A	**OR**	3280	SUSPENSION LOCKOUT SOLENOID UPPER
B	**TN**	3281	SUSPENSION LOCKOUT SOLENOID UPPER RETURN (-)

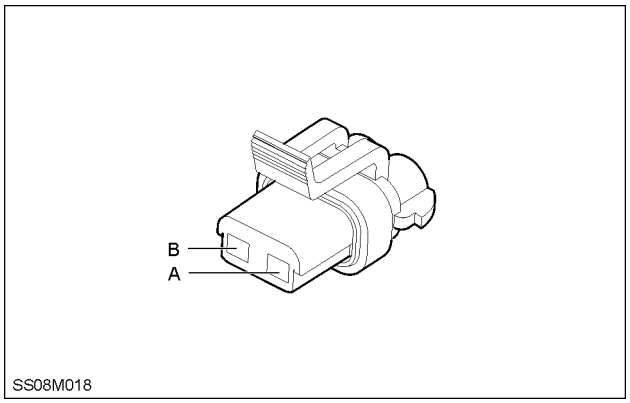
MAXXUM CVT 110 - 130

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
A	**OR**	3280	SUSPENSION LOCKOUT SOLENOID UPPER
B	**BK**	57	EARTH (ALL)

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

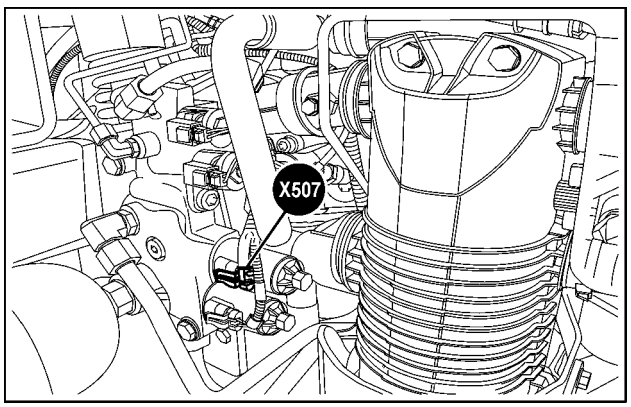


SS09F098 17

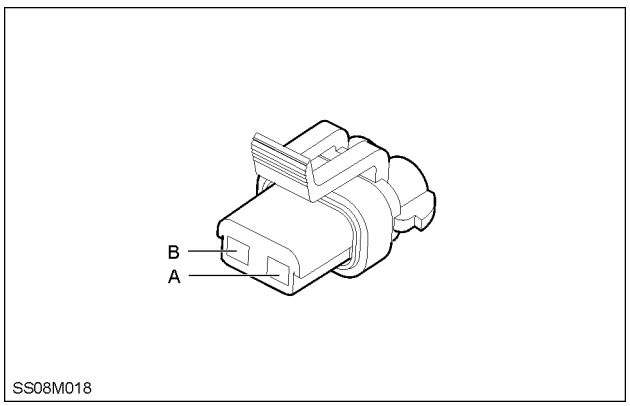


SS08M018 18

RIGHT HAND SIDE REAR OF TRANSMISSION



SVIL13TR00547AD 19



SS08M018 20

RIGHT HAND SIDE REAR OF TRANSMISSION

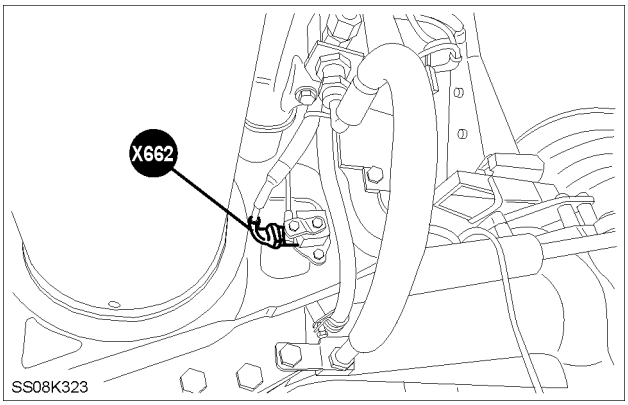
X508 Lower Lockout Solenoid

MAXXUM 110 - 140 Multicontroller EP

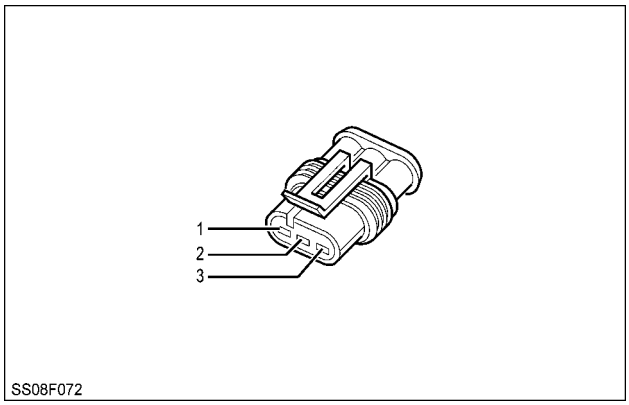
MAXXUM 110 - 140 EP

16x16 Transmission

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
A	**TN**	3285	SUSPENSION LOCKOUT SOLENOID LOWER
B	**TN**	3286	SUSPENSION LOCKOUT SOLENOID LOWER RETURN (-)



SS08K323 9



SS08F072 10

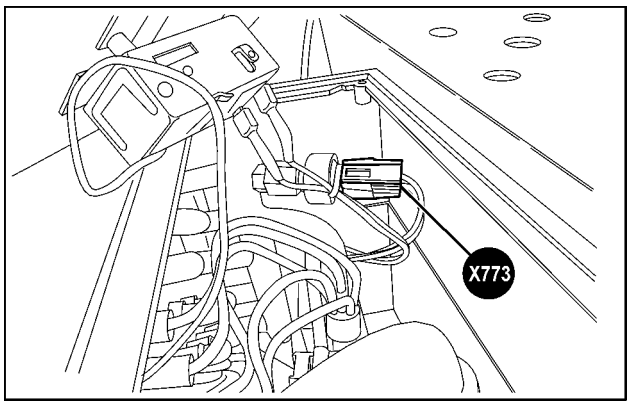
RIGHT HAND FRONT AXLE

Automatic Climate Control (ATC)

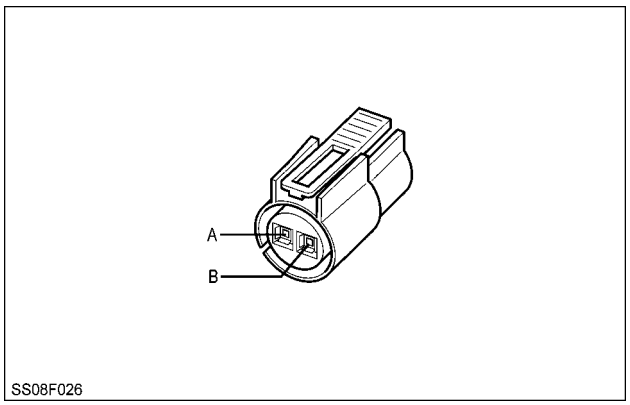
POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
A	**RD**	-	-
B	**BK/WH**	-	-

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

Standard climate control (up to 02/2013)



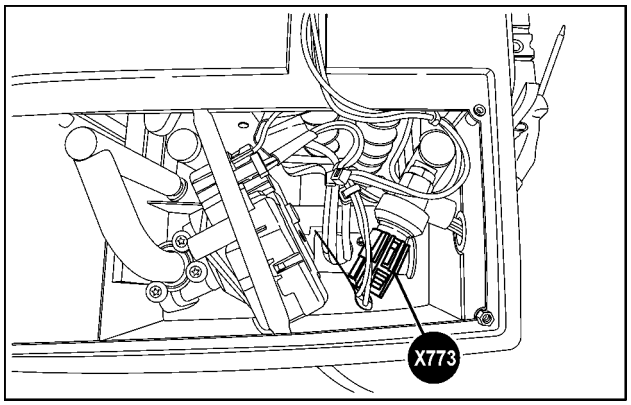
SS13G187 5



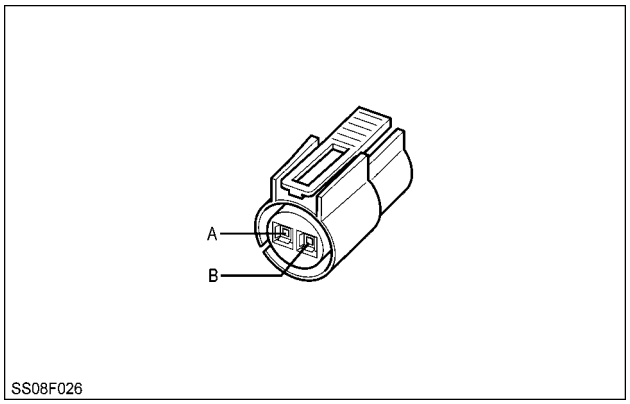
SS08F026 6

IN CAB BELOW OPERATOR'S SEAT

Automatic Climate Control (ATC)
Standard climate control (from 03/2013)



SVIL13TR00565AB 7



SS08F026 8

IN CAB BELOW OPERATOR'S SEAT

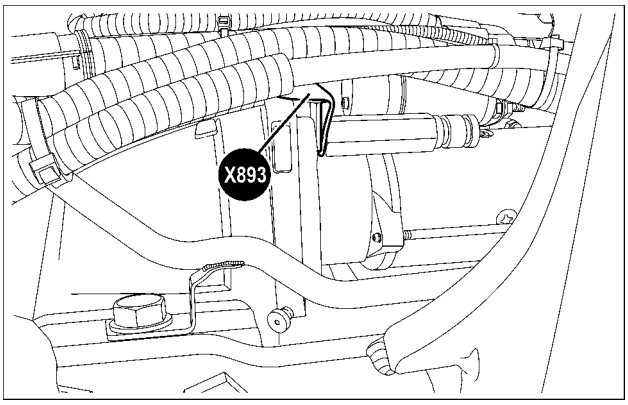
X774 Heating control valve

Automatic Climate Control (ATC)
Standard climate control (from 03/2013)

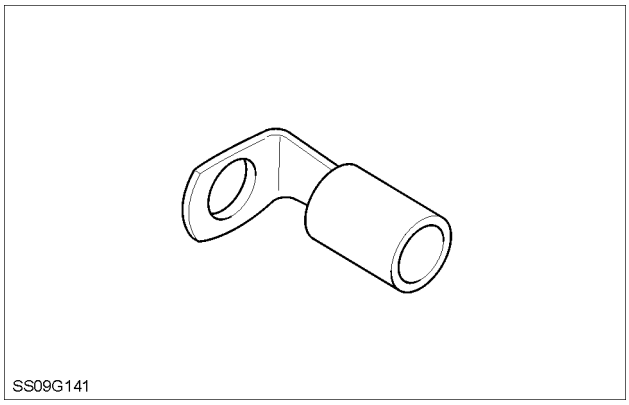
POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
A	**RD**	-	-
C	**YE**	-	-
D	**BK**	-	-

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*

MAXXUM 110 - 140 Multicontroller EP MAXXUM 110 - 140 EP



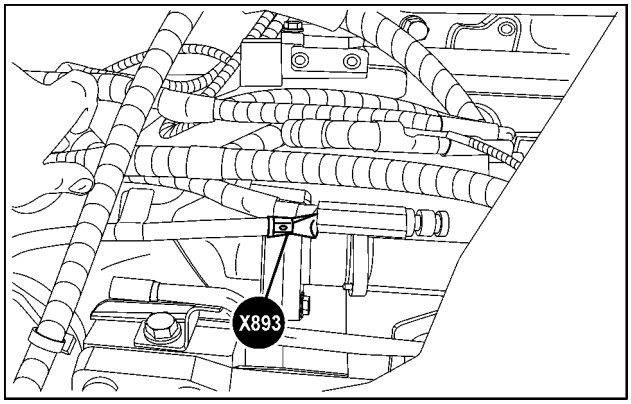
SS12B151 15



SS09G141 16

REAR ENGINE RIGHT HAND

Maxxum CVT 110 - 130



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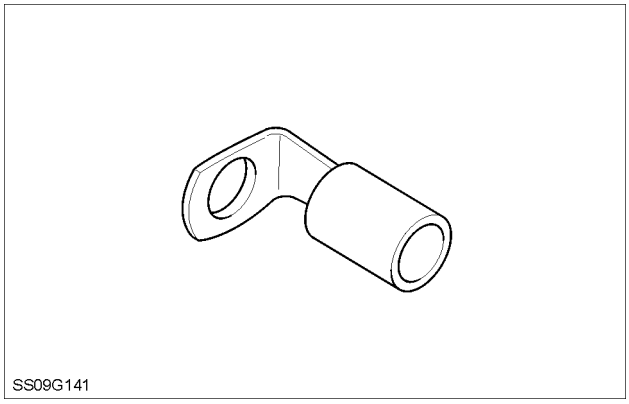


SS09G141 18

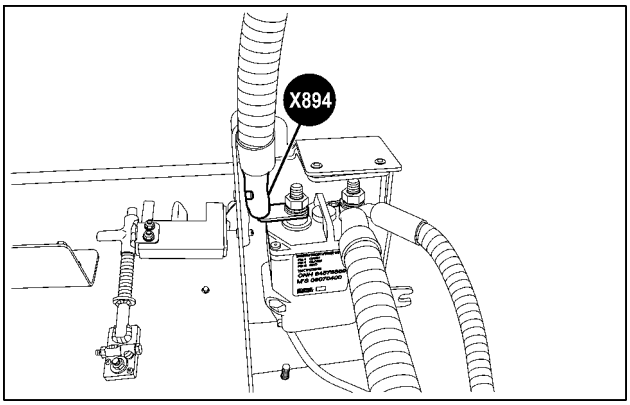
REAR ENGINE RIGHT HAND

X894 Battery isolator

MAXXUM CVT 110 - 130

POS.	COLOR	WIRE NUMBER	CIRCUIT REFERENCE
1	**BK**	1	BATTERY SUPPLY

NOTE: *For the wiring color code refer to,* ***Wire harnesses - Identification (55.100)****.*



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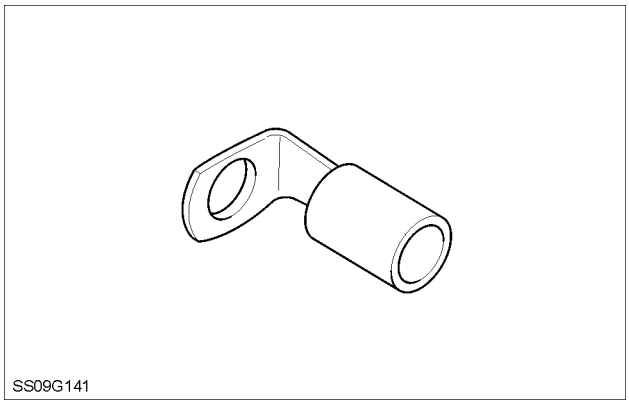
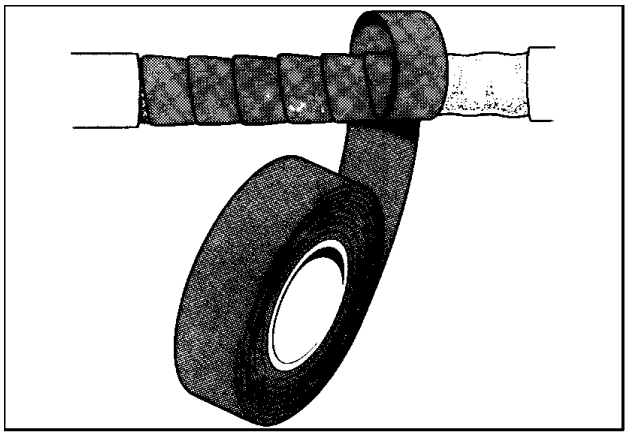


SS09G141 20

RIGHT-HAND SIDE BEHIND THE BATTERY HOUSING

13. Cover the area with insulating tape taking the tape well over each end of the repair. An overlap of at least **50.0 mm** (**2.0 in**) of tape at each end is necessary.
14. Ensure that the repair is satisfactory. Secure the repaired cable so that repeat damage can be avoided.



1Z0O2004112114 4

Battery - General specification

Temperature	Efficiency of a Fully Charged Battery
25.0 °C (**77.0 °F**)	**100 %**
-4.5 °C (**23.9 °F**)	**82 %**
-24.0 °C (**-11.2 °F**)	**64 %**
-27.5 °C (**-17.5 °F**)	**58 %**
-31.0 °C (**-23.8 °F**)	**50 %**
-34.5 °C (**-30.1 °F**)	**40 %**
-37.5 °C (**-35.5 °F**)	**33 %**

	140 Ah (**800 cca**)	**176 Ah** (**1300 cca**)
Slow Charge Programs	32 hours at **5 A** 17 hours at **10 A**	46 hours at **5 A** 23 hours at **10 A**
Fast charge Program (emergencies only)	9 hours at **18 A**	13 hours at **18 A**

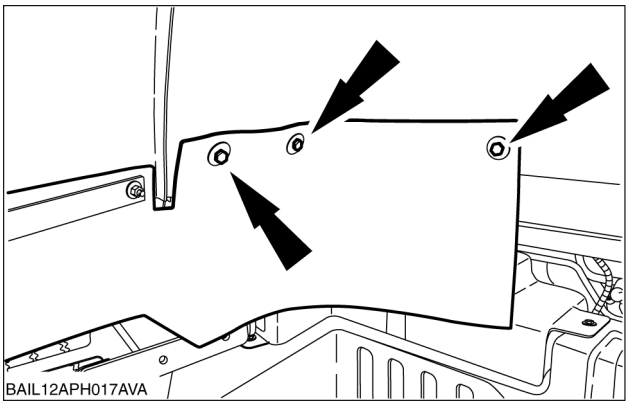
Use the following table to determine the state of charge

State of Charge	Corrected Specific Gravity @ **15 °C** (**59.0 °F**)	Corrected Specific Gravity @ **25 °C** (**77.0 °F**)	Average Battery Voltage
100 %	1.295	1.287	**12.76 V**
75 %	1.253	1.246	**12.52 V**
50 %	1.217	1.210	**12.30 V**
25 %	1.177	1.170	**12.06 V**
Discharged	1.137	1.130	**11.84 V**

Specific Gravity	Fast charge up to :
1.150 SG or less	**60 minutes**
1.151 - 1.175 SG	**45 minutes**
1.176 - 1.200 SG	**30 minutes**
1.201 - 1.225 SG	**15 minutes** (Slow charge only)

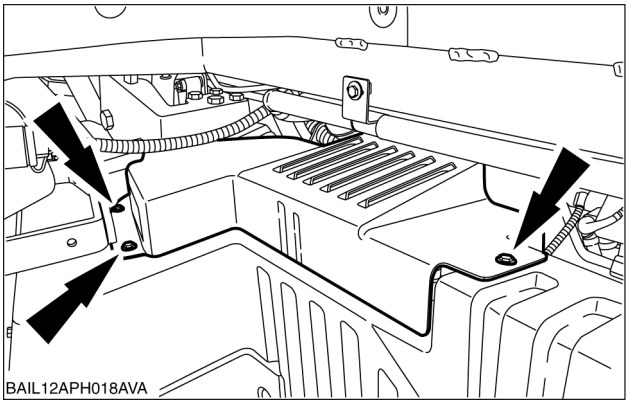
Description	Battery Specification
Capacity (Ampere hour at 20 hour rate)	140 / 176
Cold Cranking Ampere Rating	800 / 1300
Voltage	12
Cells	6
Ground Terminal	Negative

4. Detach the rear fender deflector and position it to one side.



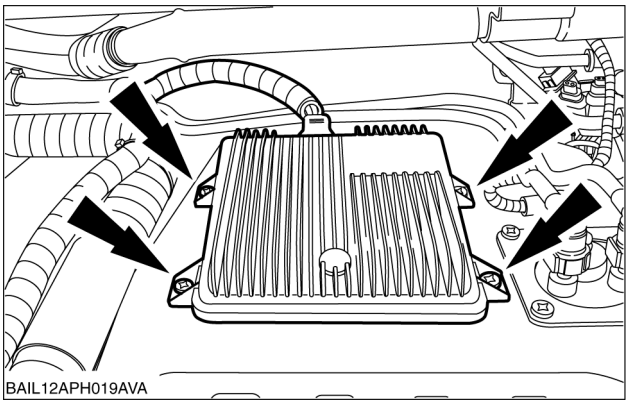
BAIL12APH017AVA 4

5. Remove the Selective Catalytic Reduction (SCR) power converter cover.



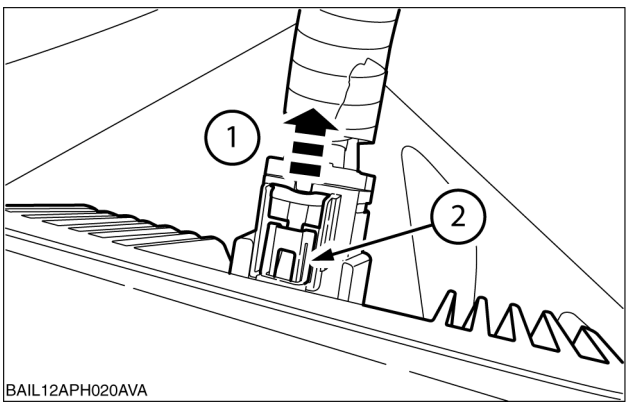
BAIL12APH018AVA 5

6. Detach the SCR power converter from the fuel tank.

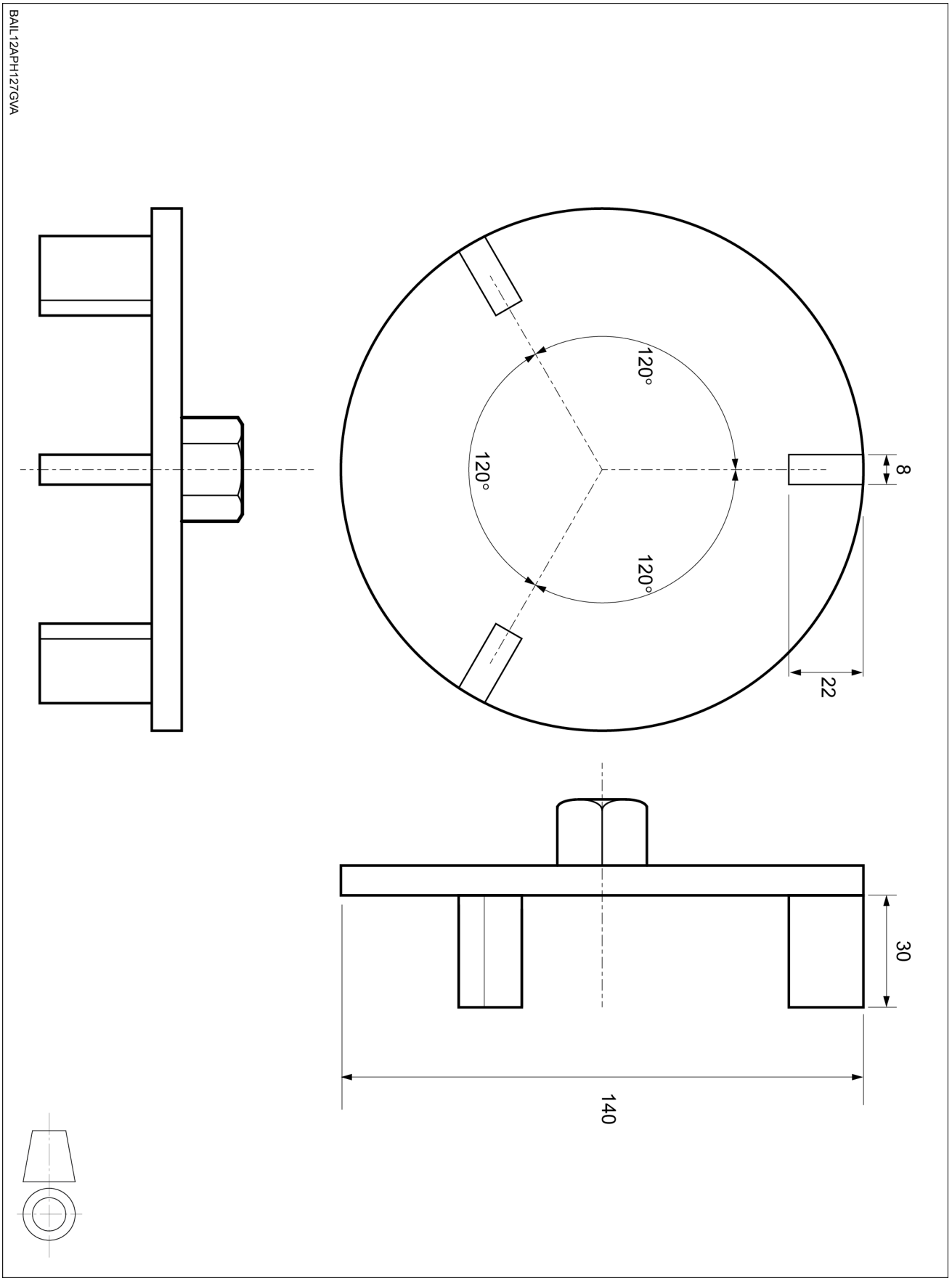


BAIL12APH019AVA 6

7. Pull back the slider **(1)**, fully depress the locking latch **(2)** and pull on the connector body to disconnect the electrical connector and remove the SCR power converter.



BAIL12APH020AVA 7



BAIL12APH127GVA 1

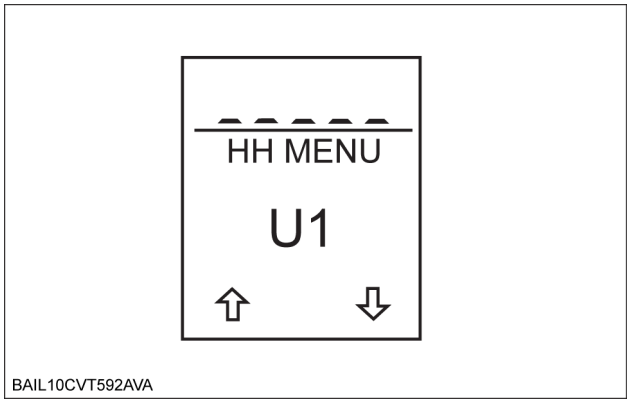
Selective Catalytic Reduction (SCR) heated level sensor locally fabricated tool.

H Menu Navigation Procedure

Connect the special tool **380000843** to the diagnostic connector and turn the key start switch ON.

At key ON the ICU3 will automatically build a list of the controllers connected on the Controller Area Network (CAN), and will store it in the Electrically Erasable Programmable Read Only Memory (EEPROM).

The dot matrix display will show “HH MENU" to indicate that the “H" menu has been activated.

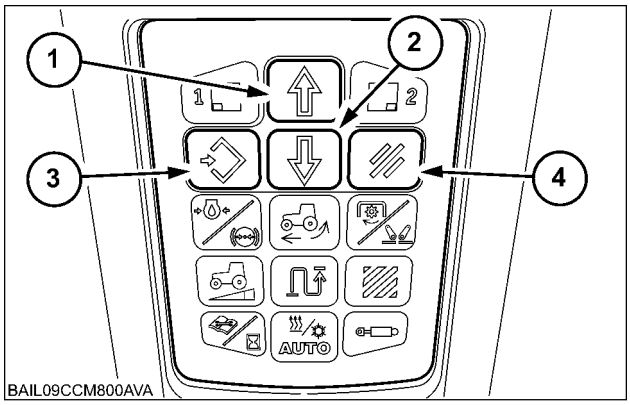


BAIL10CVT592AVA 3

To navigate the “H" menus use the navigation “up" key and “down" key to scroll through the options, and the “menu" key to select the required controller or “H" menu, and the "escape" key to back up a menu level.

(1) "up" key
(2) "down" key
(3) "menu" key

(4) "escape" key



BAIL09CCM800AVA 4

NOTE: *Not all H menus will be available on every controller. If a controller does not implement a particular H menu, then it will not be shown when scrolling.*

Steering Calibration 'U' Error Codes

Code	Description	Possible Failure
U19	Oil Temperature below 5°C	1) Open circuit for the temperature sensor input to the transmission module 2) Faulty temperature sensor Note: Use the H9 menu in the transmission module to see if the temperature sensor input is OK
U21	ERPM is below 1300, increase throttle	1) Operator has not set the correct engine speed 2) Open circuit for the engine speed sensor going to the cluster – mechanical engines only 3) Instrument cluster is not powered 4) Broken CAN bus Note: Use the HE menu to see if the engine speed is being detected.
U71	Calibration attempted while enable switch is off	1) The enable switch is in the off position 2) The enable switch is in the on position at start up but needs to be cycled through off then on to enable the system
U72	Proximity sensor input is out of range – open	1) Incorrect position of steering wheel 2) Faulty proximity sensor Check the proximity sensor connection
U73	Proximity sensor input is out of range – closed	1) Incorrect position of steering wheel 2) Faulty proximity sensor Check the proximity sensor connection
U74	LVDT calibration has been unsuccessful (out of range after 4th attempt)	1) Faulty LVDT sensor 2) Faulty steering hydraulic valve 3) Incorrect assembly of hydraulic valve Check the LVDT sensor connection

EDC - Error Codes

Code	Description
1002	Radar not detected (when slip option enabled)
1003	Speed sensor error
1004	Wheel speed sensor - signal too high
1006	Slip control potentiometer error
1008	Raise / work switch failure (command arm)
1009	Both external switches operated at the same time
1010	Height limit control potentiometer error
1012	Drop rate control potentiometer error
1014	R/H load sensing pin – signal too low
1015	R/H load sensing pin – signal too high
1016	L/H load sensing pin – signal too low
1017	L/H load sensing pin – signal too high
1018	Both load sensing pins disconnected
1019	Load sensing pin 8V reference – voltage too low
1020	Load sensing pin 8V reference – voltage too high
1021	Draft sensitivity control potentiometer error
1024	Perform the hydraulic lift calibration
1025	Position control potentiometer error
1027	Lift arm position sensor – voltage too low
1028	Lift arm position sensor – voltage too high
1029	Hydraulic control valve disconnected
1031	Chassis harness disconnected
1033	Draft control potentiometer error
1049	Wheel speed sensor open circuit
1063	Hydraulic valve lower solenoid – open circuit
1064	Hydraulic valve raise solenoid – open circuit
1065	Hydraulic valve lower solenoid – short circuit

Front Hitch Calibration 'U' Error Codes

Code	Description	Possible Failure
U110	Position potentiometer value too low or the hitch is not raised	Hitch was not raised before height limit control was changed from ON to OFF position
U111	Position potentiometer value too high or the hitch is not lowered	Hitch was not lowered before height limit control was changed from ON to OFF position

Steering Calibration 'U' Error Codes

Code	Description	Possible Failure
U19	Oil temperature below **5 °C**	1) Open circuit for the temperature sensor input to the transmission module 2) Faulty temperature sensor Note: Use the H9 menu in the transmission module to see if the temperature sensor input is okay
U21	ERPM is below 1300, increase throttle	1) Operator has not set the correct engine speed 2) Open circuit for the engine speed sensor going to the cluster – mechanical engines only 3) Instrument cluster is not powered 4) Broken CAN bus Note: Use the HE menu to see if the engine speed is being detected
U71	Calibration attempted while enable switch is off	1) The enable switch is in the off position 2) The enable switch is in the on position at start up but needs to be cycled through off then on to enable the system
U72	Proximity sensor input is out of range – open	1) Incorrect position of steering wheel 2) Faulty proximity sensor 3) Check the proximity sensor connection
U73	Proximity sensor input is out of range – closed	1) Incorrect position of steering wheel 2) Faulty proximity sensor 3) Check the proximity sensor connection
U74	LVDT calibration has been unsuccessful (out of range after 4th attempt)	1) Faulty LVDT sensor 2) Faulty steering hydraulic valve 3) Incorrect assembly of hydraulic valve 4) Check the LVDT sensor connection

EPL Calibration 'U' Error Codes

Code	Description	Possible Failure
U114	Hand brake applied	1) Blue cable (on the handbrake switch connector) cut off 2) Mismatch between the handbrake switch status hardwired to the EPL and the VCU_HB_SWITCH parameter in the VCU2EPL CAN message
U115	Shuttle lever not in the park position	1) Pins A4 or C7 of the EPL module short to ground 2) Pins A4 or C7 of the EPL module cut off 3) Pins A4 or C7 of the EPL module short to supply voltage 4) Shuttle lever damaged
U116	APP position too high	1) Wrong mechanical adjustment of the EPL transmission lever 2) Possible wear in the braking pads
U117	APP position too low	1) Stiffness of the system is too high – possible mechanical interferences 2) Wrong mechanical installation of the EPL
U118	Error codes active preventing completion of initialization procedure	1) High recovery level error code is being activated
U119	Bowden cable not connected	1) Bowden cable not connected
U120	Inclinometer self test failed	1) Inclinometer broken
U121	Inclinometer calibration procedure not OK	–

Once the required setting is displayed, press and hold either the “h” or “m” button for 1 second. The instrument cluster will beep and the setting will be stored.

Depress the "dimming" button to exit the menu at any time.

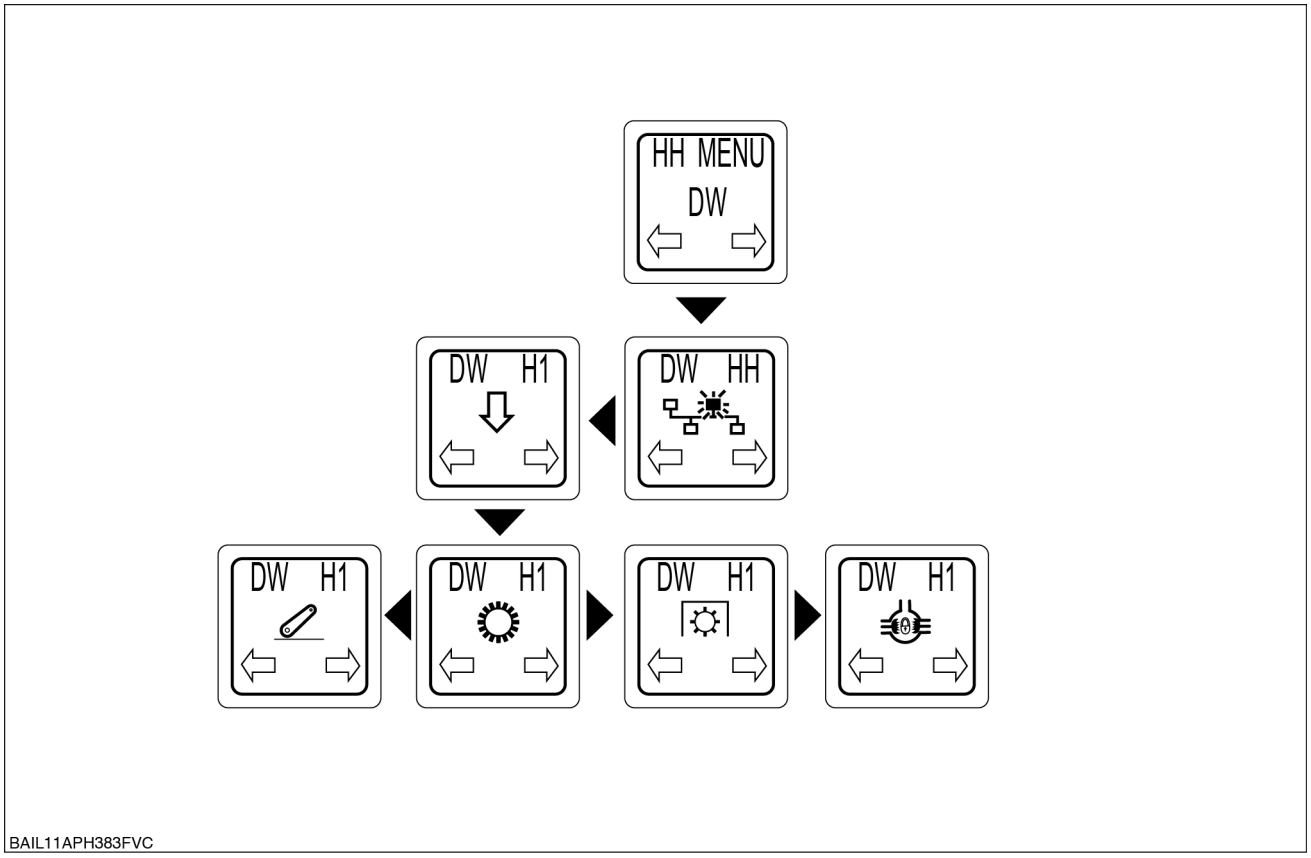
Electronic module Central Control Unit (CCU) - H2 - View stored calibration values

MAXXUM 110 EP	INT 24x24 Transmission
MAXXUM 115 EP	INT 24x24 Transmission
MAXXUM 120 EP	INT 24x24 Transmission
MAXXUM 125 EP	INT 24x24 Transmission
MAXXUM 130 EP	INT 24x24 Transmission
MAXXUM 140 EP	INT 24x24 Transmission

The Central Control Unit (DW) is used to view stored calibration values for the following components:

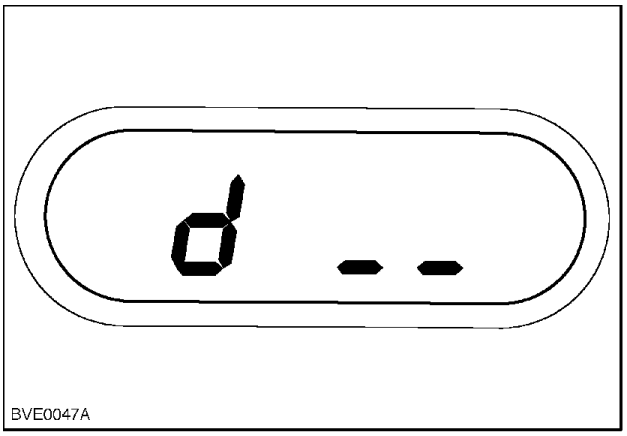
- 24x24 Transmission
- EDC
- Rear PTO
- Steering Sensor

H2 Menu Screen Select Diagram



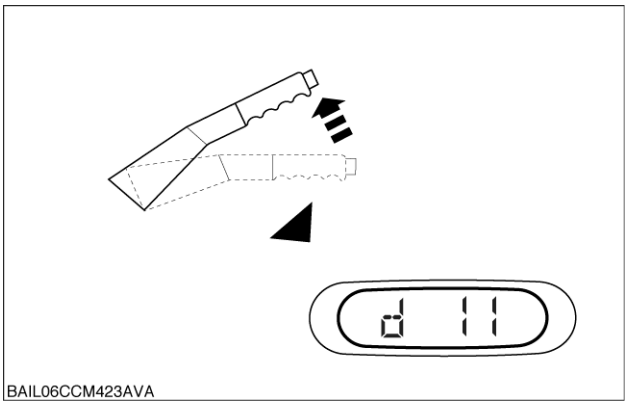
BAIL11APH383FVC 1

The lower central display will show “d _ _".



BVE0047A_569 5

When a switch is operated, a code will be displayed and an audible tone should be heard to indicate the correct function.
If a switch code is not displayed and the audible tone not heard, a 'wiggle' test can be performed on the related wiring while watching the display or listening for the audible tone, to help locate the fault.



BAIL06CCM423AVA 6

Refer to the table below for the switch numbers.

Channel	Control unit plug connection	Pin number	Description
d0	-	-	No switch activated or two switches activated at the same time
d1	CN1B	30	EDC fender switch - Lower
d2	CN1B	29	EDC fender switch - Raise
d3	CN1B	18	EDC work switch (on EDC mouse)
d4	CN1B	20	EDC raise switch (on EDC mouse)
d10	CN3A	16	Seat switch
d11	CN3A	19	Handbrake switch
d12	CN3A	10	Left brake pedal switch
d13	CN3A	11	Right brake pedal switch
d14	CN1A	8	Clutch pedal switch (engine running and transmission in forward or reverse)
d15	CN1B	12	Switch for the shuttle lever - Forwards
d16	CN1B	13	Switch for the shuttle lever - Reverse
d17	CN1B	23	Transmission downshift switch
d18	CN1B	22	Transmission upshift switch
d19	CN3A	23	Transmission range shift switch
d25	CN3A	6	Transmission neutral switch (clutch depressed, change to neutral from forward or reverse)
d26	CN1B	26	16x16 Transmission high range switch
d27	CN1B	19	16x16 Transmission low range switch
d29	CN1B	24	EDC raise / work switch (on EDC mouse)
d30	CN3A	14	Transmission auto on / off switch
d34	CN3A	8	Transmission creeper switch
d35	CN3A		Creeper selector fork disengaged switch
d36	CN3A	9	Creeper selector fork engaged switch

Electronic module Instrument control unit - H8 - Clear stored calibration information (EEPROM)

MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 Multicontroller EP	INT

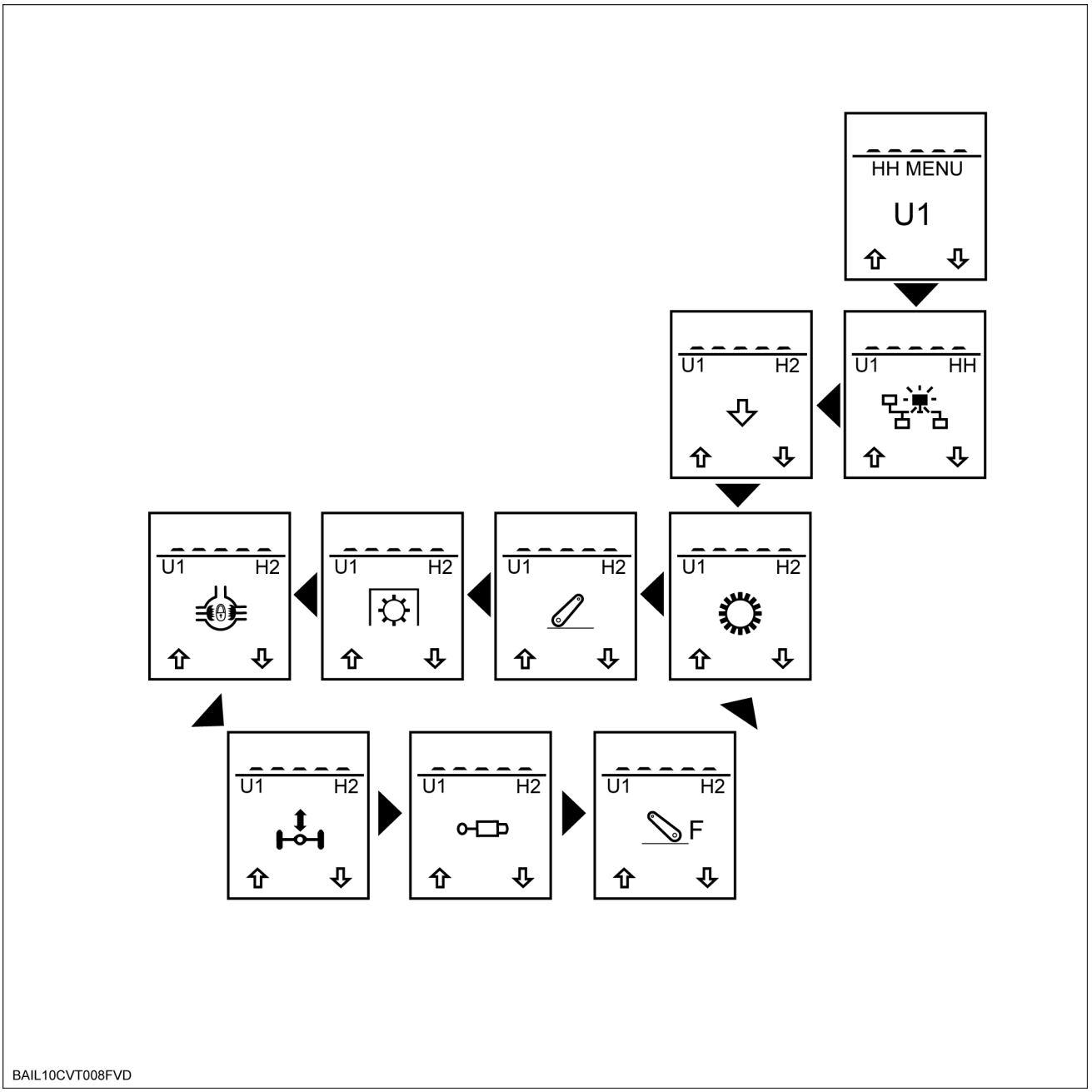
This menu clears calibration values and stored error codes by resetting all EEPROM values back to default. EEPROM is where all calibration values and error codes are stored. This memory is retained even if there is no power to the controller, i.e. if the battery is disconnected. There are two options available. "Clear net config" and "clear settings".
"Clear net config" is used to erase the stored network configuration, this will clear the current configuration stored in the instrument cluster and rebuild the configuration at the next key ON. This should be used if the cluster has been changed or if the HH menus are showing modules which are not fitted to the machine.
"Clear settings" will return all instrument cluster settings back to their default setting.

NOTE: *To change any configuration settings H3 menu mode must be used. H8 will not affect these settings.*

NOTE: *To remove all stored error codes without erasing the calibration values use the HC menu.*

The "CLEAR SETTINGS" option will clear all of the following information stored in the instrument cluster's non-volatile memory, and set the parameters to their default values (indicated in brackets).

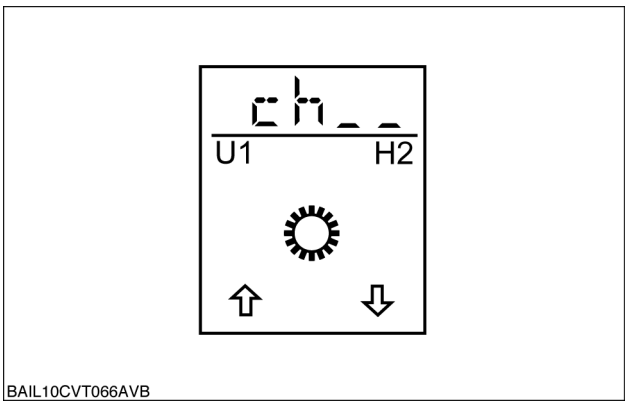
H2 Menu Screen Select Diagram



BAIL10CVT008FVD 1

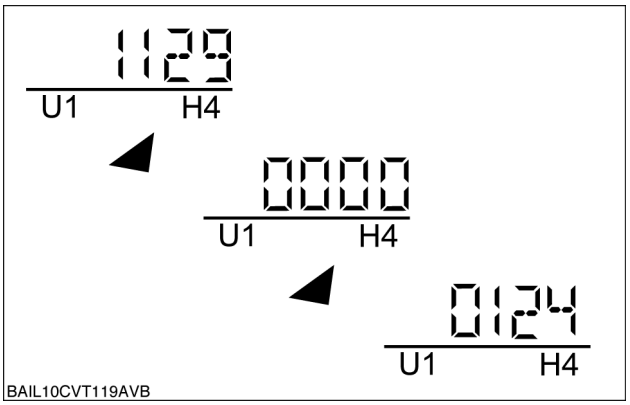
16x16 Transmission Calibration Values

Use the "up", "down", and the "menu" keys to navigate the HH menus to H2 and the transmission symbol on the U1 controller.
The upper section of the display will show "Ch_ _"



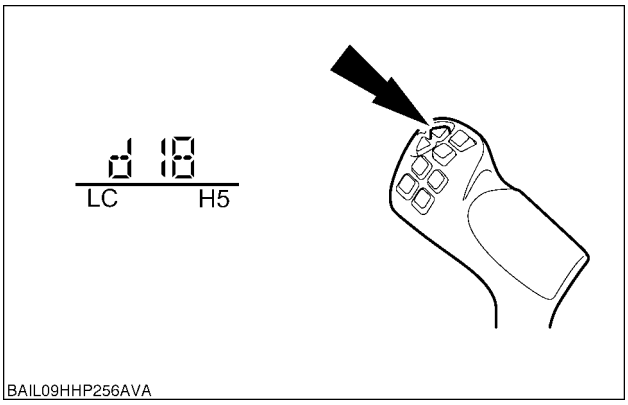
BAIL10CVT066AVB 2

The upper section of the display will automatically cycle through the software release, as the example shown and return to allow navigation of the "HH" menus



BAIL10CVT119AVB 3

When a switch is operated, a code will be displayed and an audible tone should be heard to indicate the correct function.
If a switch code is not displayed and the audible tone not heard, a 'wiggle' test can be performed on the related wiring while watching the display or listening for the audible tone, to help locate the fault.



BAIL09HHP256AVA 3

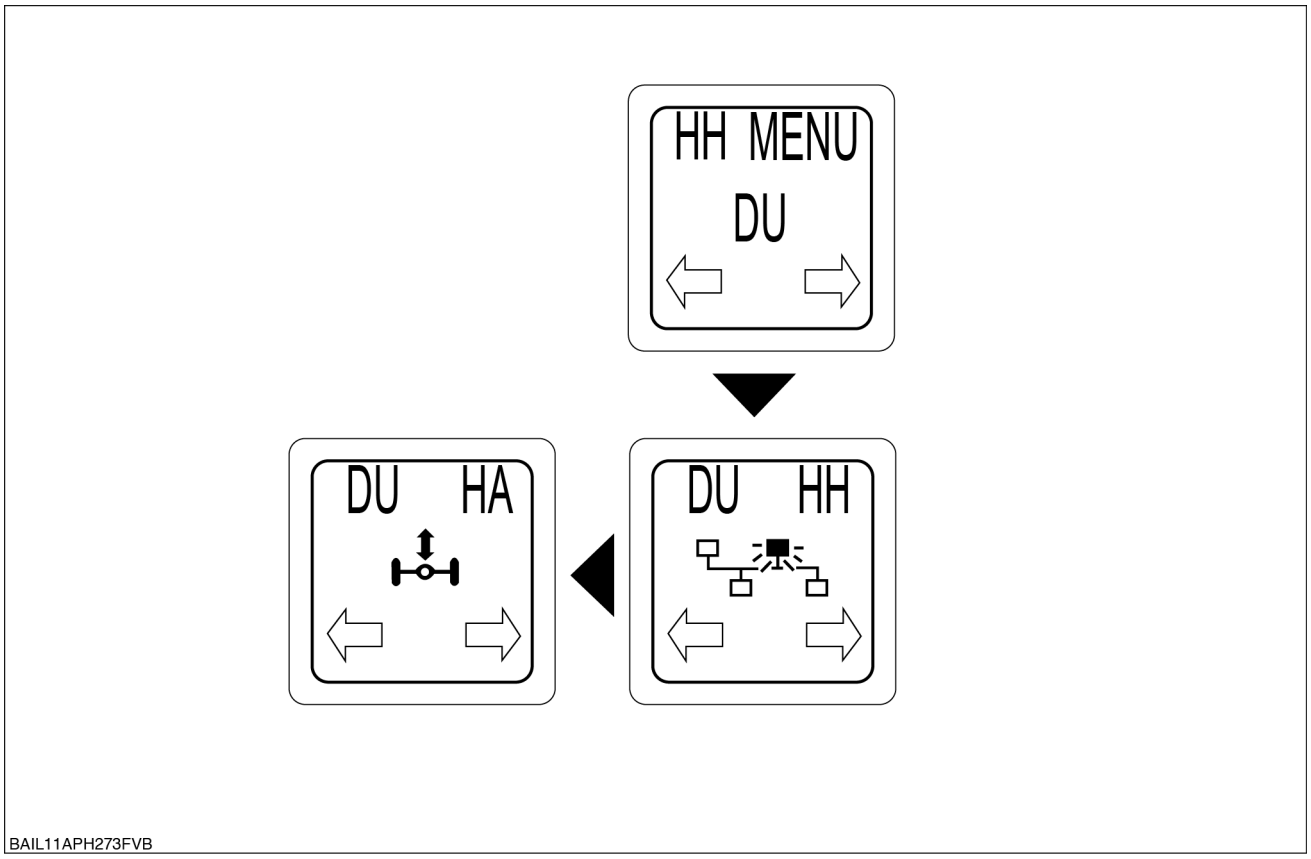
Identifier	Switch / Input
d5	Multi function handle (MFH) - Rear hitch work switch
d6	MFH - Rear hitch raise switch
d17	MFH - Downshift switch
d18	MFH - Upshift switch
d19	MFH - 2nd function switch
d92	Front hitch height limit enable switch
d95	EHR 1 program / motor mode switch
d96	EHR 2 program / motor mode switch
d97	EHR 3 program / motor mode switch
d98	EHR 4 program / motor mode switch
d104	MFH - Headland management control (HMC) step switch
d136	MFH - Reverse switch
d137	MFH - Forward switch
d153	Joystick 1 - switch 1
d154	Joystick 1 - switch 2
d155	Joystick 1 - switch 3
d159	EHR flow control encoder switch
d165	EHR float control switch
d177	MFH - Autoguidance engage on/off switch
d178	MFH EHR 1 extend switch
d179	MFH EHR 1 retract switch

Electronic module Auxiliary Control Unit (ACU) - HA - Demonstration mode

MAXXUM 110 EP	INT
MAXXUM 115 EP	INT
MAXXUM 120 EP	INT
MAXXUM 125 EP	INT
MAXXUM 130 EP	INT
MAXXUM 140 EP	INT

Used to demonstrate front axle suspension.

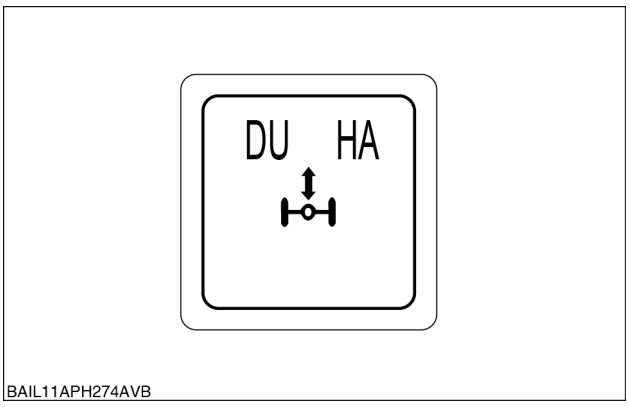
HA Menu Screen Select Diagram



BAIL11APH273FVB 1

Start the engine.

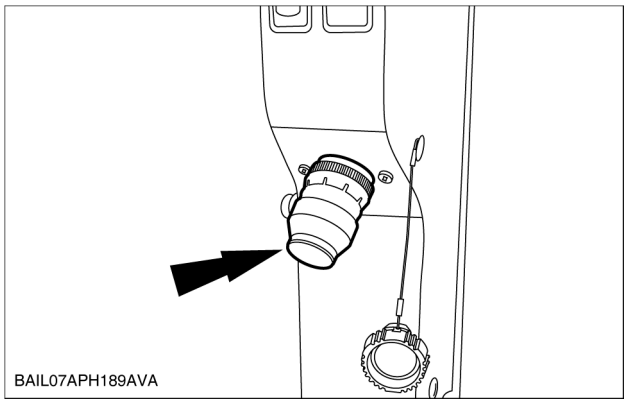
Select the HA menu by depressing the "dimming" button.



BAIL11APH274AVB 2

The required channel can be selected by using the "h" and "m" buttons.

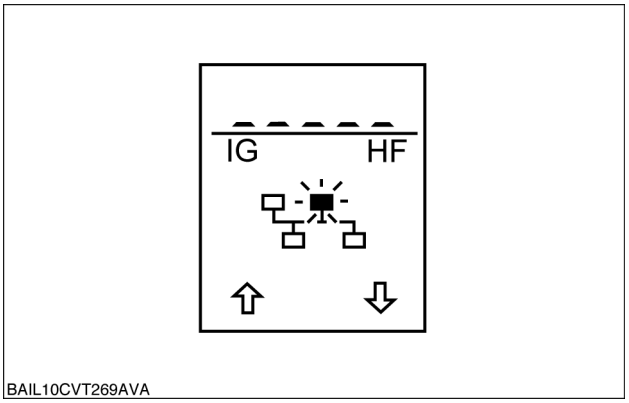
Install the diagnostic connector **380000843** into the diagnostic socket.



BAIL07APH189AVA 2

Turn the ignition key switch ON.

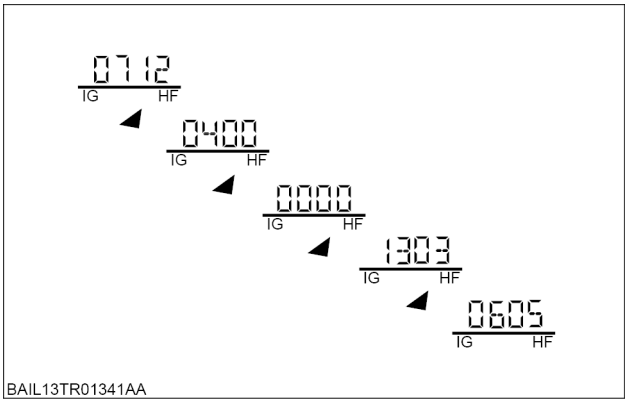
Use the "up", "down", and the "menu" keys to navigate the HH menus to HF on the IG controller.
Select the HF menu by depressing the “menu" key.



BAIL10CVT269AVA 3

The top section of the display will then automatically cycle through as the example:

0712 Hardware identification
0400 Hardware version
0000 Hardware version
1303 Serial number
0605 Serial number
And return to allow navigation of the "HH" menus.



BAIL13TR01341AA 4

NOTE: *The last three sets of 4 digits displayed represent the 12 digit module serial number. This number should correspond to the serial number shown on the module’s label. Note that the serial number shown on the display will include leading zeros that may not be present on the module label. In this example the serial number is 13030605.*

Depress the "menu" key to continue navigating the "HH" menus.

NOTE: *The default setting is VS (Viscostatic)*

Electronic module Universal controller - HA - Demonstration mode

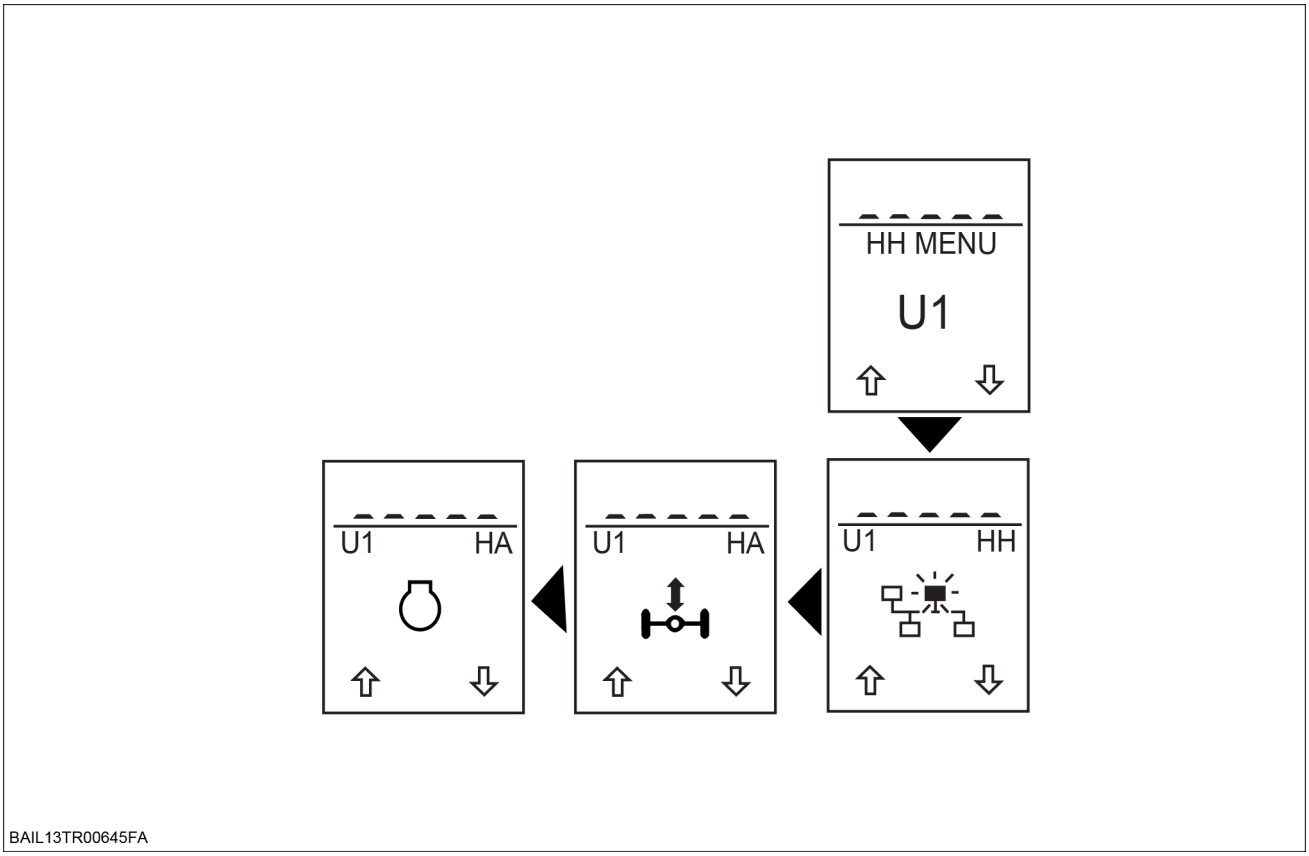
MAXXUM CVT 110	INT
MAXXUM CVT 120	INT
MAXXUM CVT 130	INT

NOTE: *The HA diagnostic menu is used to allow specific performance features of the vehicle to be turned off. This makes it possible for dealers to demonstrate the advantages of these features.*

The features that can be demonstrated in this menu are:

- Engine power boost
- Front suspension

HA Menu Screen Select Diagram



BAIL13TR00645FA 1

Engine Power Boost Demonstration

Start the engine and allow it to idle.

Contents

Electrical systems - 55

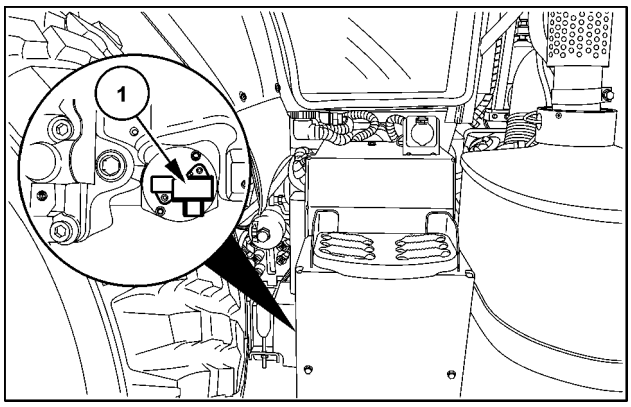
Transmission control system - 024

FUNCTIONAL DATA

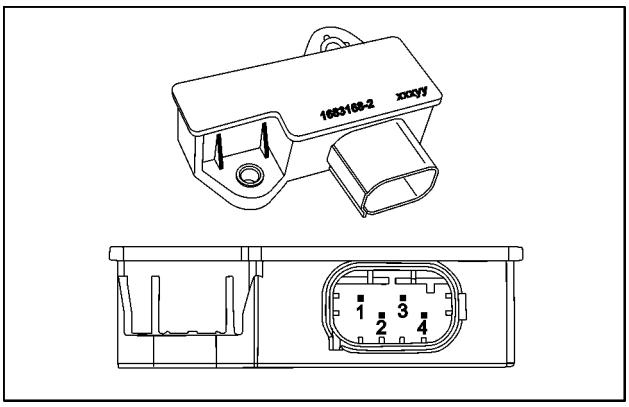
Synchronizer position sensors - Overview – F2/R1

MAXXUM CVT 110	INT
MAXXUM CVT 120	INT
MAXXUM CVT 130	INT

The synchronizer position sensor **(1)** is located on the right-hand side behind the steps.



SS13J055 1



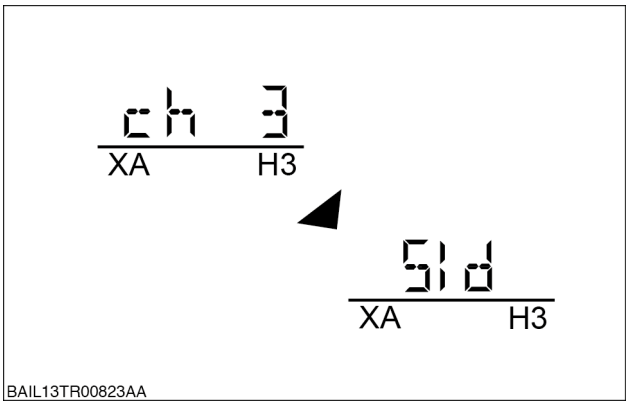
SS13J051 2

Synchronizer position sensor (F2/R1) (B-044)

Sensor version	**PLCD** - Displacement sensor
PIN 1 (voltage supply)	Ground
PIN 2 (signal) in shift position **F2**	approx. **4 V**
PIN 2 (signal) in shift position **R1**	approx. **1 V**
PIN 3 (power supply)	**5 V**
PIN 4 (signal) in shift position **F2**	approx. **1 V**
PIN 4 (signal) in shift position **R1**	approx. **4 V**
Tightening torque	**6 - 8 Nm** (**4.4 - 5.9 lb ft**)

The options available are:

- FRT - EPL installed front-on
- SId - EPL installed side-on



BAIL13TR00823AA 7

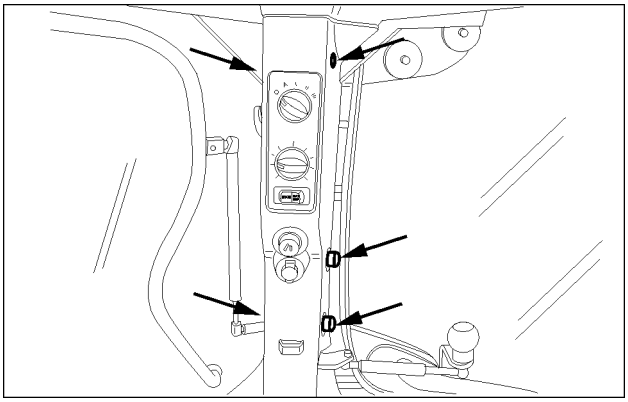
To save the desired option, press and hold the navigation "up" or "down" key until the instrument cluster bleeps, indicating that the selection has been saved.

Depress the "menu" key to continue navigating through the "HH" menus.

Air-conditioning system control Temperature control potentiometer - Replace – by 02/2013

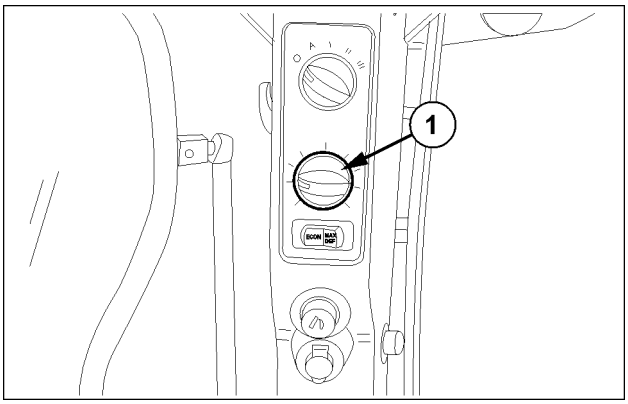
MAXXUM 110 EP	INT Auto Temperature Control (ATC)
MAXXUM 110 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 115 EP	INT Auto Temperature Control (ATC)
MAXXUM 115 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 120 EP	INT Auto Temperature Control (ATC)
MAXXUM 120 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 125 EP	INT Auto Temperature Control (ATC)
MAXXUM 125 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 130 EP	INT Auto Temperature Control (ATC)
MAXXUM 130 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 140 EP	INT Auto Temperature Control (ATC)
MAXXUM 140 Multicontroller EP	INT Auto Temperature Control (ATC)

1. Set the start switch to the "OFF" position.
   Remove the panel.



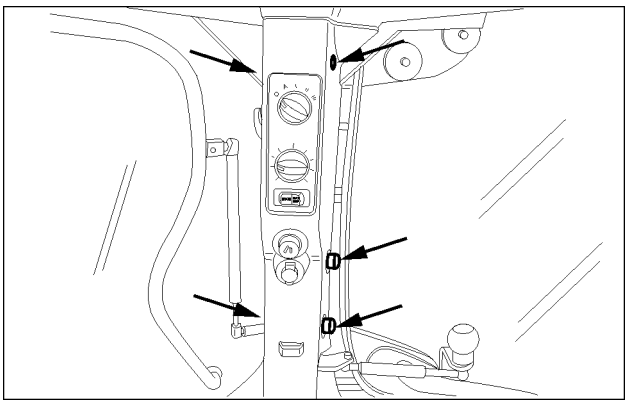
SS08D010 1

2. Disconnect the knob **(1)** and remove the nut behind.
   Disconnect the plug connection.
   Replace the potentiometer.



SS08D102 2

3. Tighten the nut and connect the knob **(1)**.
   Connect the plugs.
4. Fit the panel.



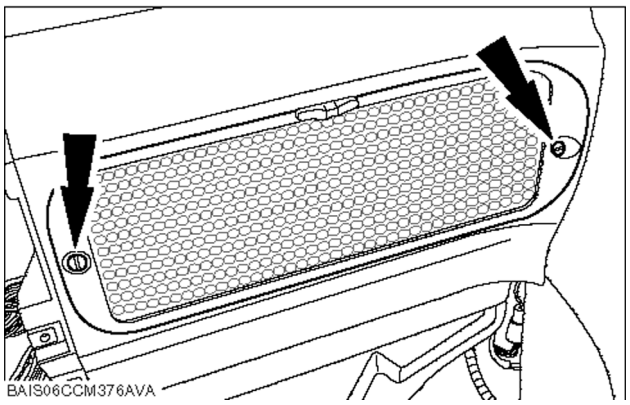
SS08D010 3

Temperature sensor - Replace (Outside temperature)

MAXXUM 110 EP	INT Auto Temperature Control (ATC)
MAXXUM 110 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 115 EP	INT Auto Temperature Control (ATC)
MAXXUM 115 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 120 EP	INT Auto Temperature Control (ATC)
MAXXUM 120 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 125 EP	INT Auto Temperature Control (ATC)
MAXXUM 125 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 130 EP	INT Auto Temperature Control (ATC)
MAXXUM 130 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM 140 EP	INT Auto Temperature Control (ATC)
MAXXUM 140 Multicontroller EP	INT Auto Temperature Control (ATC)
MAXXUM CVT 110	INT Auto Temperature Control (ATC)
MAXXUM CVT 120	INT Auto Temperature Control (ATC)
MAXXUM CVT 130	INT Auto Temperature Control (ATC)

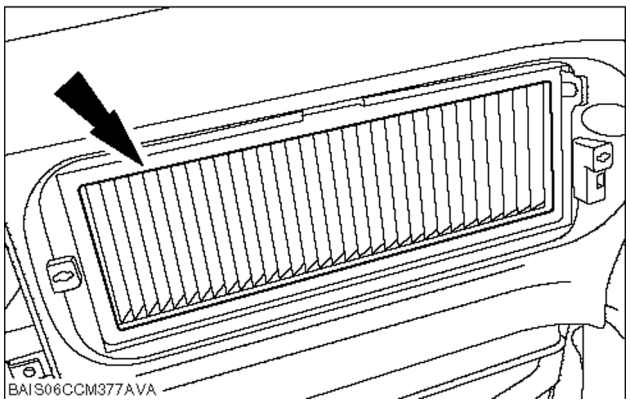
Removal

1. Turn the starter switch to the “OFF” position.
   Remove the air circulation grating.



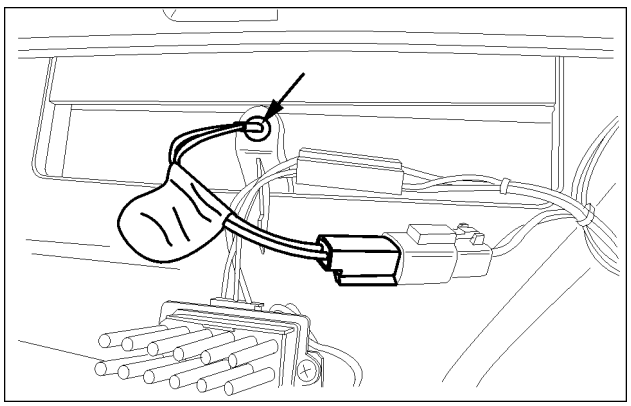
BAIS06CCM376AVA 1

2. Remove the air circulation filter element.



BAIS06CCM377AVA 2

3. Disconnect the plug connection.
   Remove the sensor.



SS08D024 3

Fast steering control module - HB - Display stored fault codes

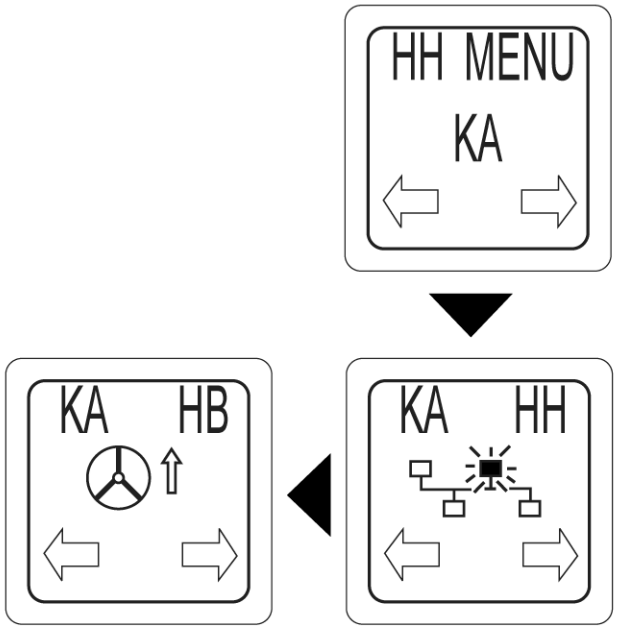
MAXXUM 110 EP	INT
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 EP	INT
MAXXUM 140 Multicontroller EP	INT

NOTE: *This menu is used to display fault codes which are stored in the EEPROM of the controller.*

NOTE: *A maximum of ten fault codes for each sub-system can be stored.*

NOTE: *Common to all sub-systems.*

HB Menu Screen Select Diagram



BAIL06CCM674FVA

BAIL06CCM674FVA 1

Global Positioning System (GPS) control unit - Electronic schema

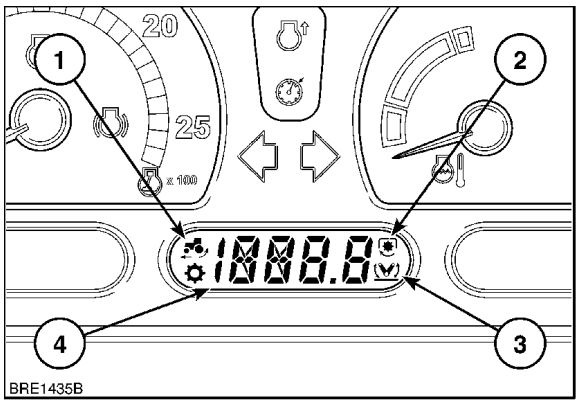
MAXXUM 110 Multicontroller EP	INT
MAXXUM 115 Multicontroller EP	INT
MAXXUM 120 Multicontroller EP	INT
MAXXUM 125 Multicontroller EP	INT
MAXXUM 130 Multicontroller EP	INT
MAXXUM 140 Multicontroller EP	INT
MAXXUM CVT 110	INT
MAXXUM CVT 120	INT
MAXXUM CVT 130	INT

Component Identification	
1.	**Autoguidance** Module **(NAV)**
2.	Crank Isolate Relay
3.	Manual Override Pressure Sensor
4.	Steering Angle Sensor
5.	Diagnostic Connector
6.	**GPS** (Global Positioning System) Receiver
7.	Select Switch
8.	Steering Solenoids Isolation Relays
9.	Steering Solenoids
10.	Sensor Ground
11.	Chassis Ground
12.	Power Ground

Centre LCD

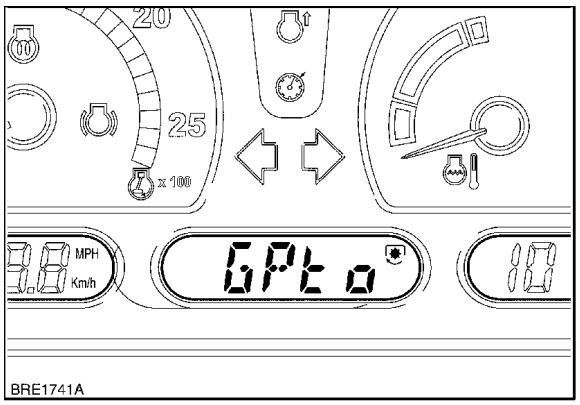
The information displayed in the centre LCD **(4)**, will vary depending on tractor specification. Use the CAL/SEL switch or Enhanced Keypad (where fitted) to toggle between the displays.
The following information may be displayed in the centre LCD.

1. Rear wheel slip (with radar option only)
2. Power Take Off speed (front or rear)
3. 3-point hitch position (front or rear)



BRE1435B 19

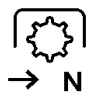
When operating the ground drive power take off (GPTO) the display may be used to monitor the letters "GPtO". Depress the CAL/SEL button or Enhanced Keypad (where fitted), to show the GPtO is ON (where fitted).



BRE1741A 21

Symbol on display	Indicator light	Warning light	Acoustic warning	Cause	Signal
	-	 flashes **4 s**/ illuminates	-	Hydraulic pressure for brake force amplification too low: This warning is displayed if the engine is turned off and the pressure is < **15 bar** (**217.5 psi**).	**+ 12 V *S-008** (***S-008** switch, exhaust brake)

Transmission

Symbol on display	Indicator light	Warning light	Acoustic warning	Cause	Signal
	-	-	Action required	Transmission oil too cold. Heat transmission oil.	**CAN** message from **TCM**
	-	-	Action required	Driver's seat switch was disengaged for more than **5 s** and driver attempts to select a direction of travel. Press clutch pedal once.	**CAN** message from **TCM**
	-	-	Action required	Direction of travel selected. Request to shift into Neutral.	**CAN** message from **TCM**
	-	-	-	With the **PTO** switched off, a smaller speed was switched to a higher speed, or from "N" to "1000", "1000E". (Symbol and switching procedure is activated when **PTO** is switched on). (Only with **ESPTO**)	**CAN** message from **TCM**
	-	-	-	With the **PTO** switched off, a higher speed was switched to a lower speed, or from "N" to "540E", "540".((Symbol and switching procedure is activated when **PTO** is switched on). (Only with **ESPTO**)	**CAN** message from **TCM**
	-	-	-	With the **PTO** switched off, any speed was switched to "N". (Only with **ESPTO**)	**CAN** message from **TCM**
	-	-	-	This symbol shows that the switching procedure was successful. (Only with **ESPTO**)	**CAN** message from **TCM**
	-	-	-	Impermissible switching procedure. With the **PTO** switched on, an attempt was made to select another speed or "N". (Only with **ESPTO**)	**CAN** message from **TCM**

Message	Description	Controller
3123	PTO Twist Sensor - Not Calibrated	EDC
3123	PTO Twist Sensor - Not Calibrated	EDC
3131	Grid Heater Always Switched On	EDC
3145	Terminal 15 - No Signal	EDC
3145	Terminal 15 - No Signal	EDC
3146	Water detected in fuel	EDC
3154	Grid Heater Relay - Short Circuit To Battery	EDC
3155	Grid Heater Relay - Short Circuit To Ground	EDC
3156	Grid Heater Relay - No Load	EDC
3157	ECM Not Detected On CAN Bus	EDC
3158	Engine anti-tamper - security check failed	EDC
3160	Fan Actuator - Short Circuit to Battery	EDC
3161	Fan Actuator - Short Circuit to Ground	EDC
3162	Fan Actuator - Open Load	EDC
3163	Fan Actuator - No Load	EDC
3166	Fuel Filter Heater Relay - Short Circuit To Battery	EDC
3167	Fuel Filter Heater Relay - Short Circuit To Ground	EDC
3168	Fuel Filter Heater Relay - Open Load	EDC
3169	Fuel Filter Heater Relay - Signal Not Plausible	EDC
3179	Time-out Of CAN Message BC2EDC2	EDC
3180	Time-out of CAN Message VM2EDC	EDC
3182	Timeout Of CAN Message RxCCVS	EDC
3183	Timeout of CAN message TSC1-VR (when active)	EDC
3184	Timeout of CAN message TSC1-VR (when inactive)	EDC
3250	Dataset - Variant Defect	EDC
3251	Dataset - Requested Variant Could Not Be Set	EDC
3253	ADC Monitoring - Reference Voltage Too Low	EDC
3254	ADC Monitoring - Reference Voltage Too High	EDC
3255	ADC Monitoring Test Impulse Error	EDC
3256	ADC Monitoring Queue Error	EDC
3258	High side power - short circuit to battery	EDC
3259	High side power - short circuit to ground	EDC
3260	Low side power - open load	EDC
3261	Low side power - short circuit to battery or excess temperature	EDC
3262	Low side power - short circuit to ground	EDC
3267	Main relay 3 - short circuit to battery	EDC
3268	Main relay 3 - short circuit to ground	EDC
3278	Engine Controller Supply Voltage Too High	EDC
3279	Engine Controller Internal Supply Voltage Too Low	EDC