



STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractors

Repair Manual

47924636

Order the manual at mid-west-tech.com >

BOOK 1 - 87525655

STANDARD TORQUE SPECIFICATIONS ..... SECTION 1000

SAFETY ..... SECTION 1001

LUBRICATION AND MAINTENANCE ..... SECTION 1002
ENGINE OIL SELECTION 1002-3
Synthetic Lubricants 1002-3
ENGINE OIL VICOSITY/TEMPERATURE USAGE RECOMMENDATION 1002-3
ENGINE COOLANT SOLUTIONS 1002-4
STX280 AND STX330 TRACTORS 1002-5
Lubricants and Capacities 1002-5
Lubrication and Maintenance Chart 1002-6
STX380, 430, 480 AND 530 TRACTORS 1002-8
Lubricants and Capacities 1002-8
Lubrication and Maintenance Chart 1002-9

SPECIFICATIONS ..... SECTION 1003
STX280 AND STX330 TRACTORS 1003-3
Diesel Engine 1003-3
Engine Lubrication System 1003-3
Fuel System 1003-3
Air Intake System 1003-3
Transmission - Power Shift 1003-3
Transmission - Manual Shift 1003-3
Brakes 1003-4
Axle Differential And Final Drives 1003-4
Power Takeoff (If Equipped) 1003-4
Hydraulic System 1003-4
Hitch System (If Equipped) 1003-4
Drawbar 1003-5
Approximate Base Shipping Weights 1003-5
Approximate Component Weights 1003-5
Maximum Tractor Operating Weight 1003-5
STX380, 430, 480 AND 530 TRACTORS 1003-6
Diesel Engine 1003-6
Engine Lubrication System 1003-7
Fuel System 1003-7
Air Intake System 1003-7
Transmission - Powershift 1003-7
Transmission - Manual Shift 1003-7
Brakes 1003-7
Axle Differential And Final Drives 1003-8
Power Takeoff (If Equipped) 1003-8
Hydraulic System 1003-8
TwinFlow Hydraulics (If Equipped) 1003-8
Hitch System (If Equipped) 1003-9
Drawbar 1003-9
Track And Undercarriage (If Equipped) 1003-9
Approximate Base Shipping Weights 1003-10
Approximate Component Weights 1003-10
Maximum Tractor Operating Weight 1003-10

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >

ENGINE REMOVAL AND INSTALLATION - STX380/430 TRACTORS ..... SECTION 2001
SPECIAL TORQUE VALUES 2001-3
RECOMMENDED TOOLS 2001-3
ENGINE REMOVAL 2001-4
ENGINE INSTALLATION 2001-13

AIR INDUCTION SYSTEM - STX380/430 TRACTORS ..... SECTION 2002
SPECIAL TORQUE VALUES 2002-2
AIR INDUCTION SYSTEM 2002-3
AIR INDUCTION SYSTEM DESCRIPTION 2002-4
AIR INDUCTION SYSTEM 2002-4
AIR FILTER ELEMENTS 2002-4
PRIMARY AND SECONDARY FILTER ELEMENT REMOVAL 2002-5
PRIMARY FILTER ELEMENT SERVICE 2002-7
RESTRICTION INDICATOR SWITCH REMOVAL AND TEST 2002-8
AIR CLEANER HOUSING REMOVAL 2002-9
ASPIRATOR STRATA TUBE CLEANING 2002-10
ASPIRATOR SAFETY CHECK VALVE REMOVAL AND TEST 2002-11
ASPIRATOR SAFETY VALVE INSTALLATION 2002-11
AIR CLEANER HOUSING INSTALLATION 2002-12
RESTRICTION INDICATOR SWITCH INSTALLATION 2002-13
SECONDARY AND PRIMARY FILTER ELEMENT INSTALLATION 2002-13

VISCOUS FAN DRIVE TEST AND HYDRAULIC FAN DRIVE TEST ..... SECTION 2003
VISCOUS FAN DRIVE TEST - STX280, STX330, STX380, STX430 2003-3
HYDRAULIC FAN DRIVE TEST - STX480 AND STX530 2003-5

ENGINE REMOVAL AND INSTALLATION - STX280/330 TRACTORS ..... SECTION 2004
SPECIAL TORQUE VALUES 2004-2
SPECIAL TOOLS 2004-2
ENGINE REMOVAL 2004-3
ENGINE INSTALLATION 2004-10

ENGINE REMOVAL AND INSTALLATION - STX480/530 TRACTORS ..... SECTION 2005
SPECIAL TORQUE VALUES 2005-2
RECOMMENDED TOOLS 2005-2
ENGINE REMOVAL 2005-3
ENGINE INSTALLATION 2005-13

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >

AIR INDUCTION SYSTEM - STX280/330 TRACTORS ..... SECTION 2006
SPECIAL TORQUE VALUES 2006-3
AIR INDUCTION SYSTEM 2006-4
AIR FILTER ELEMENTS 2006-4
ENGINE AIR INDUCTION SYSTEM 2006-5
Primary And Secondary Filter Element Removal 2006-5
PRIMARY FILTER ELEMENT SERVICE 2006-7
RESTRICTION INDICATOR SWITCH REMOVAL AND TEST 2006-7
AIR CLEANER HOUSING REMOVAL 2006-8
Aspirator Strata Tube Cleaning 2006-10
ASPIRATOR SAFETY CHECK VALVE REMOVAL AND TEST 2006-12
ASPIRATOR SAFETY CHECK VALVE INSTALLATION 2006-13
AIR CLEANER HOUSING INSTALLATION 2006-14
RESTRICTION INDICATOR SWITCH INSTALLATION 2006-15
SECONDARY AND PRIMARY FILTER ELEMENT INSTALLATION 2006-16

AIR INDUCTION SYSTEM - STX480/530 TRACTORS ..... SECTION 2007
SPECIAL TORQUE VALUES 2007-2
AIR INDUCTION SYSTEM 2007-3
AIR FILTER ELEMENTS 2007-4
Primary And Secondary Filter Element Removal 2007-5
Primary Filter Element Service 2007-7
RESTRICTION INDICATOR SWITCH REMOVAL AND TEST 2007-8
AIR CLEANER HOUSING REMOVAL 2007-9
ASPIRATOR STRATA TUBE CLEANING 2007-10
ASPIRATOR SAFETY CHECK VALVE REMOVAL AND TEST 2007-11
ASPIRATOR SAFETY VALVE INSTALLATION 2007-11
AIR CLEANER HOUSING INSTALLATION 2007-12
RESTRICTION INDICATOR SWITCH INSTALLATION 2007-13
SECONDARY AND PRIMARY FILTER ELEMENT INSTALLATION 2007-13

NAO POWERSHIFT ELECTRICAL SCHEMATIC ..... POSTER 87517737

ELECTRICAL SYSTEM - HOW IT WORKS AND TROUBLESHOOTING ..... SECTION 4001
SPECIAL TOOLS 4001-3
FUSE AND RELAY IDENTIFICATION
DELUXE CAB POWERSHIFT TRANSMISSION 4001-4
FUSE AND RELAY IDENTIFICATION
DELUXE CAB 24 SPEED TRANSMISSION 4001-6
INSTRUMENTATION AND CONTROLS 4001-8
AUXILIARY AUTO MODE SWITCH (IF EQUIPPED) 4001-11
CONNECTOR AND COMPONENT LOCATION 4001-13
ELECTRICAL SYSTEMS SCHEMATICS AND DIAGNOSTICS 4001-89
AUDIO SYSTEM CIRCUIT OPERATION 4001-90
CHARGING SYSTEM 4001-95
POWER MIRROR SYSTEM 4001-99
POWER SEAT SYSTEM 4001-107
STARTING SYSTEM 4001-112

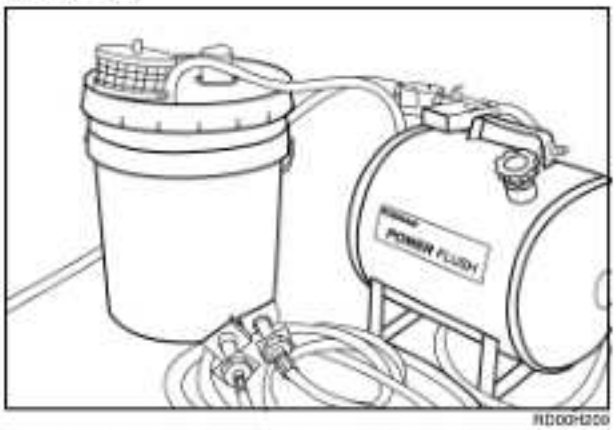
MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >

Complete Circuit Flushing Procedure with Power Flush 17550

STEP 65

All refrigerant must be recovered from the system before flushing.

STEP 66

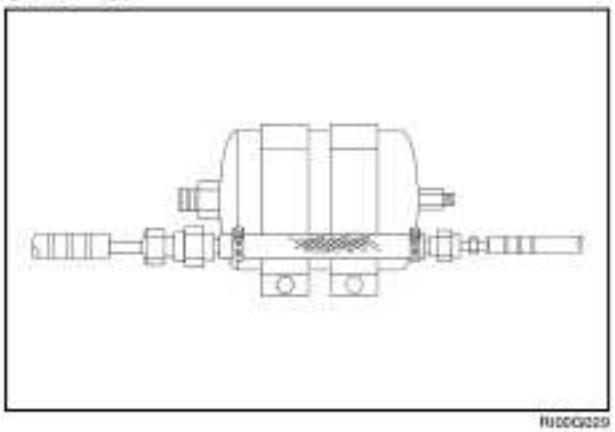


RD00H020

The 17550 power flush unit uses shop air to atomize the flushing solvent and a pulsing action to scrub residue and contaminants out of components.

Fill the flushing reservoir 3/4 full with approved Case flushing solvent. **Do not overfill the reservoir or you will restrict the pulsing action of the unit.**

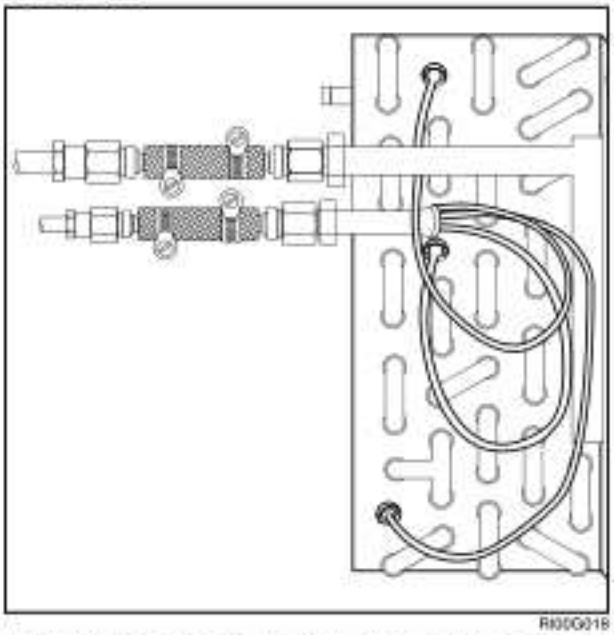
STEP 67



RD00G029

Remove the receiver-drier and join the hoses together with an adapter hose. Discard the receiver-drier.

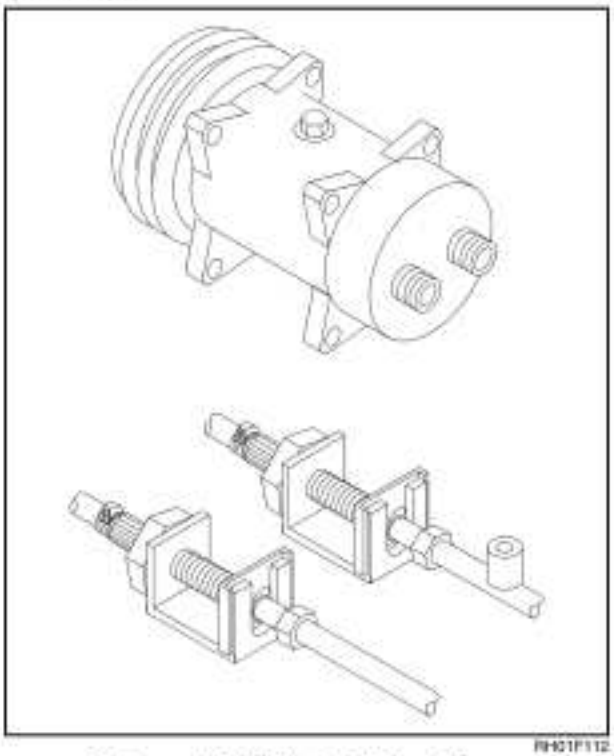
STEP 68



RH00G018

Remove the thermal expansion valve and use adapters to connect the hose lines to the evaporator.

STEP 69



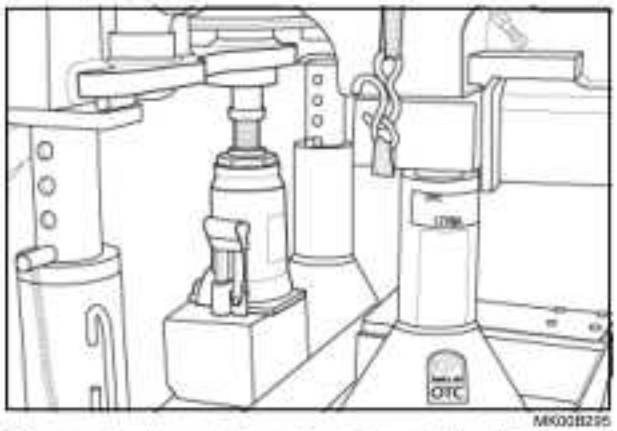
RH01F112

Universal A/C Flush Fittings Shown

Disconnect the suction and discharge lines from the compressor. Attach flushing adapters to the lines.

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >

STEP 28

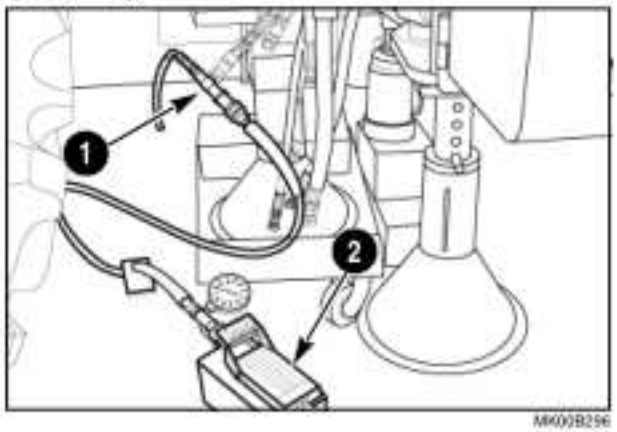


MK00B295

Remove the lower king pin using a hydraulic jack to push the pin out.

IMPORTANT: *If the tractor is equipped with front suitcase weights, place adequate jack stands or blocking under the front weight hanger before separating the front and rear frames.*

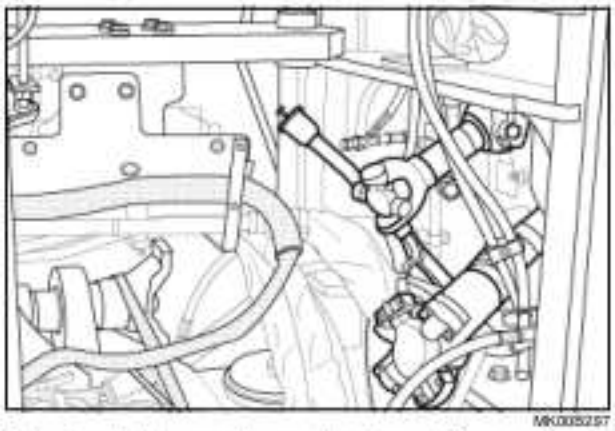
STEP 29



MK00B296

Connect the CAS 2504 Coupler Adapter (1) to the park brake supply hose (2) (marked in Step 11). Connect the OEM 6019 Air/Hydraulic Pump to the coupler. Operate the air/hydraulic pump to slowly pressurize the park brake circuit 280 to 300 psi (19 to 20 bar).

STEP 30



MK00B297

Slowly roll the rear frame backward. If repairs are being made to the bottom hinge bearing, move the rear frame back approximately 18 inches (457 mm). If the connecting link will be removed, separate the rear frame from the front frame approximately 100 inches (2500 mm).

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >

FAULT CODE ARM 29
1st Remote Hydraulic Control Lever Potentiometer Failure

Cause:
The 1st remote hydraulic control lever potentiometer voltage is less than 0.3 volts or greater than 4.7 volts.

Possible failure modes:
1. Potentiometer shorted or open.
2. External wiring damage.
3. Loose connector, bent or partially inserted pin.
4. Controller failure.

Solution:
The 1st remote hydraulic control lever potentiometer is wired directly to the armrest controller. Verify the function of the potentiometer, wiring and armrest controller.

NOTE: *The hydraulic control lever position is broadcast over the Tractor Data Bus. The 1st remote hydraulic control lever potentiometer can be monitored using the MONITOR window in the service tool and selecting Armrest Aux Remote 1 Lever Control to view percent of calibrated range of the potentiometer.*

NOTE: *If the lever does not go 0 to 100% on the service tool monitor screen or any component is replaced in the throttle control lever circuit, the throttle menu in the armrest controller setup must be performed to calibrate the lever.*

1. Open the armrest controller housing and disconnect connector J201 for the AUX 1 lever.
2. Test the 1st remote hydraulic control lever potentiometer and its wiring. Pay attention for wiring damage, loose connectors, or bent pins. Verify that the potentiometer is not loose.
   a) Measure the continuity between pin 3 (orange wire) and pin 5 (black wire). The resistance should be 3600 to 4400 ohms.
   b) Measure between pin 4 (green wire) and pin 5 when moving the remote control lever from retract to extend. The resistance should change continuously and smoothly.
   If there is any problem with the potentiometer function, replace the 1st remote hydraulic control assembly.
3. Check the power supply and ground:
   a) Turn key switch to the ON position.
   b) Test the potentiometer power supply from the armrest controller at pin 3 (orange wire). It should be approximately 8 volts.
   c) Test the potentiometer ground pin 3 (black wire) for continuity to cavity 11 of connector C137 (armrest controller side connector). There should be good continuity (less than 1 ohm).
   If any problem is found in above tests, fix the problem or replace the component. Perform the aux menu in the armrest controller setup if a problem is fixed or a component replaced. If no problem is found in above tests, go to the next step.
4. Connect the potentiometer from the 2nd or 3rd remote control lever (J202 or J203) to the J201 in the controller. Move the 2nd or 3rd lever forward and backward and monitor the 1st remote hydraulic control lever position in the monitor screen of the service tool.
   If the lever functions properly now, replace the 1st remote hydraulic control assembly. Perform the aux menu in the armrest controller setup after replacing the controller assembly.
   If the lever still does not function properly now, and after cycling the key switch the fault code can be recorded again, replace the armrest controller.

NOTE: *You can directly use the test procedure in Step 4 to troubleshoot. Connect the potentiometer from the 2nd and 3rd remote control lever (J202 or J203) to the J201 in the controller. Move the 2nd or 3rd lever forward and backward and monitor the lever position in the monitor screen. If the lever functions properly now, replace the 1st remote hydraulic control. If the lever does not function properly and after cycling the key switch the fault code can be recorded again, replace the armrest controller, or connect the potentiometer from the 1st remote control lever (J201) to the J202 or J203 in the controller. Move the 1st lever forward and backward and monitor the lever position in the monitor screen. If the lever still does not function properly and after cycling the key switch the fault code can be recorded again, replace the 1st remote hydraulic control. If the lever functions properly now, replace the armrest controller.*

NOTE: *See schematic section 46 of the poster schematic.*

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >





STX and Steiger
280, 330, 380, 430, 480, 530
285, 335, 385, 435, 485, 535
Series Tractors

Service Manual

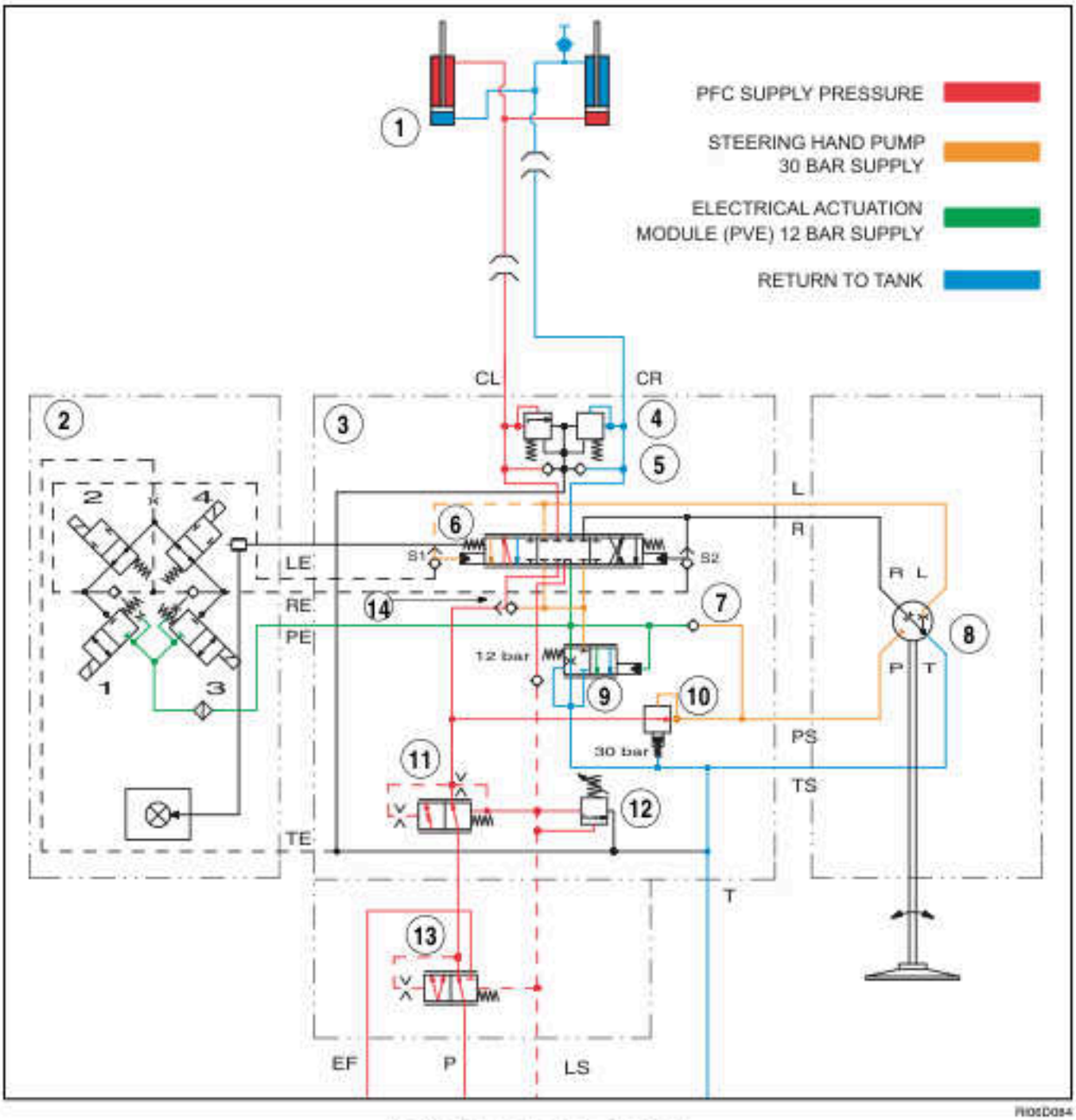
Book 9
Controllers
(Continued)

84257309
1st Printing
August, 2009

CASE

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >

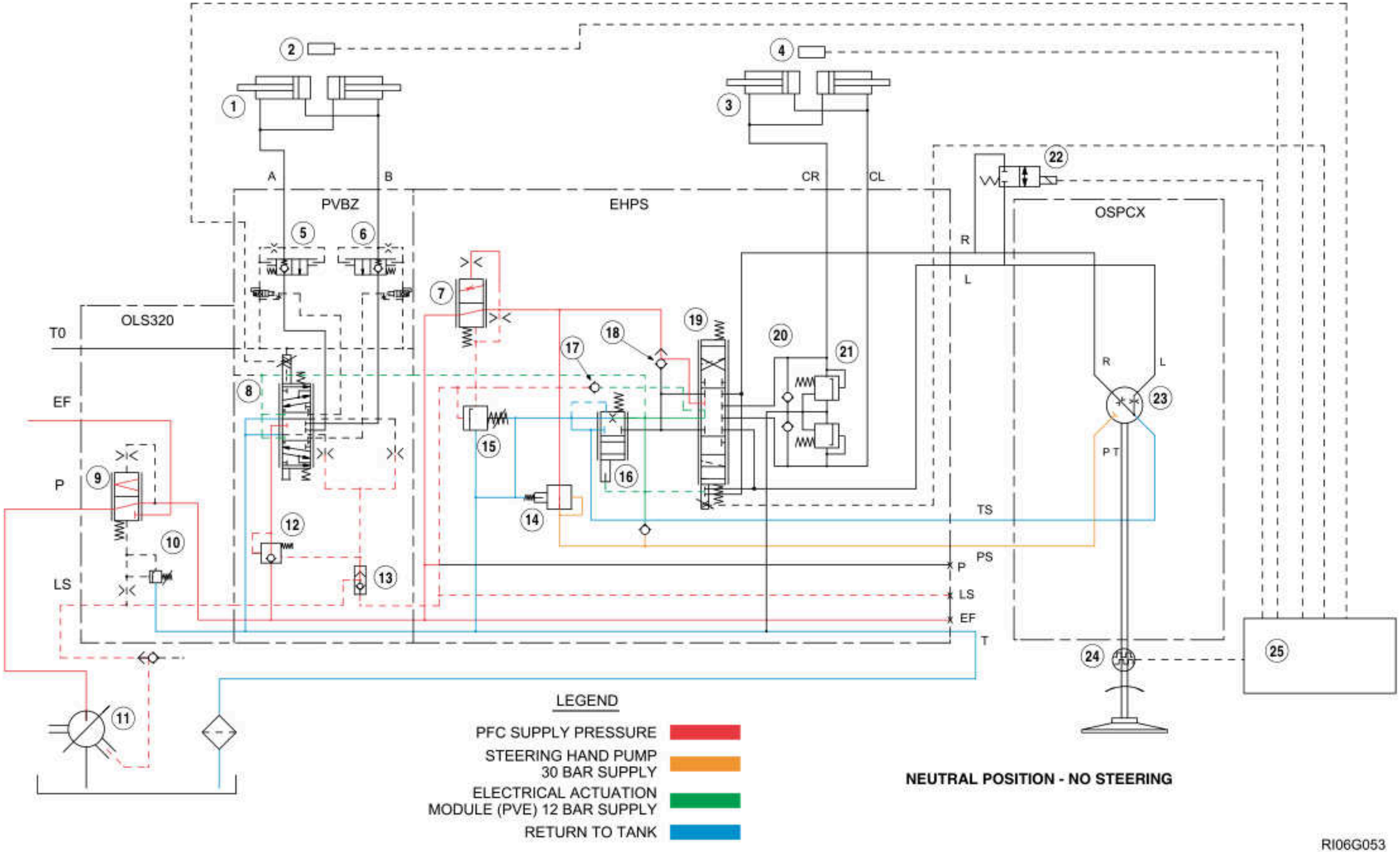
EHPS STEERING SYSTEM



Engine Running, Turning Left

1. STEERING CYLINDERS
2. ELECTRICAL ACTUATION MODULE
3. STEERING VALVE BLOCK
4. SHOCK VALVES
5. SUCTION CHECK VALVES
6. STEERING DIRECTIONAL SPOOL
7. MANUAL CHECK VALVE
8. STEERING HAND PUMP
9. METERING SPOOL
10. PRESSURE REDUCING VALVE
11. DYNAMIC LOAD SENSE SPOOL
12. RELIEF VALVE
13. PRIORITY VALVE SPOOL
14. EMERGENCY STEER CHECK VALVE

MidWestTech | Case STX280, STX330, STX380, STX430, STX480, STX530 Steiger Tractor... Order the manual at mid-west-tech.com >



Order the manual at mid-west-tech.com >