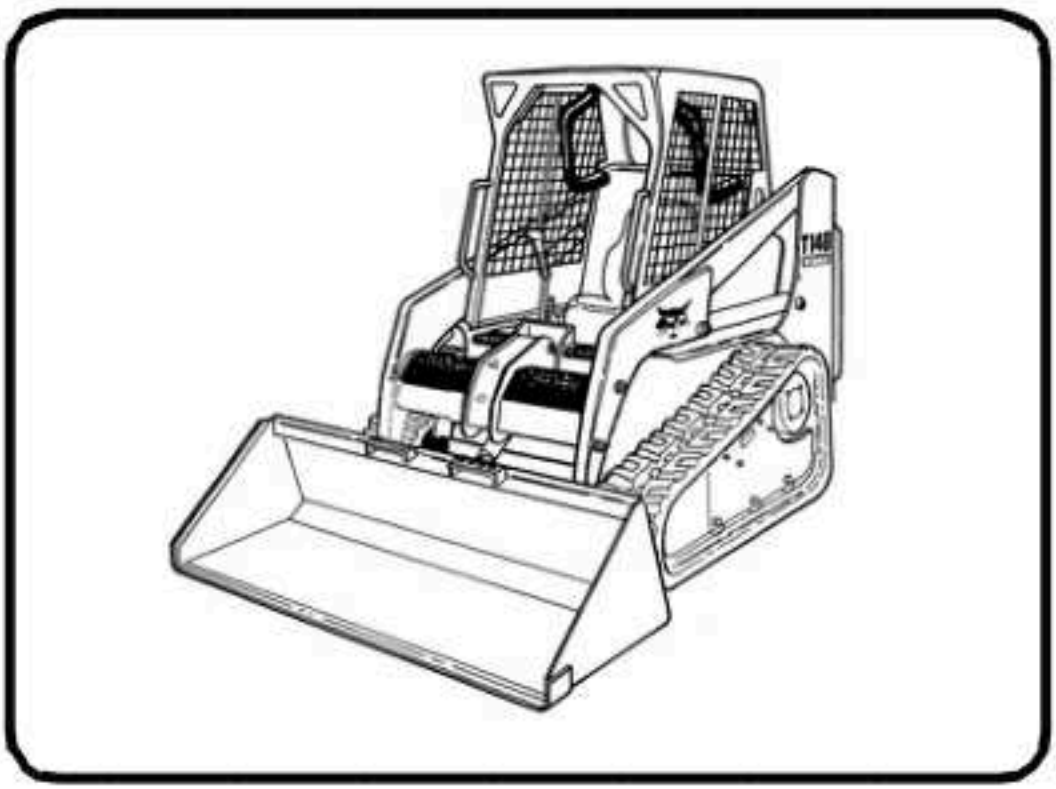
Bobcat®

Service Manual
T140 Compact Track Loader

S/N A3L711001 - A3L719999
S/N A3L811001 - A3L819999



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

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Remote Start Procedure

⚠ WARNING

AVOID INJURY OR DEATH

With the 7-pin connector plugged into the loader and Remote Start Tool RUN button is not illuminated, the loader can still be started from the operator panel inside the cab.

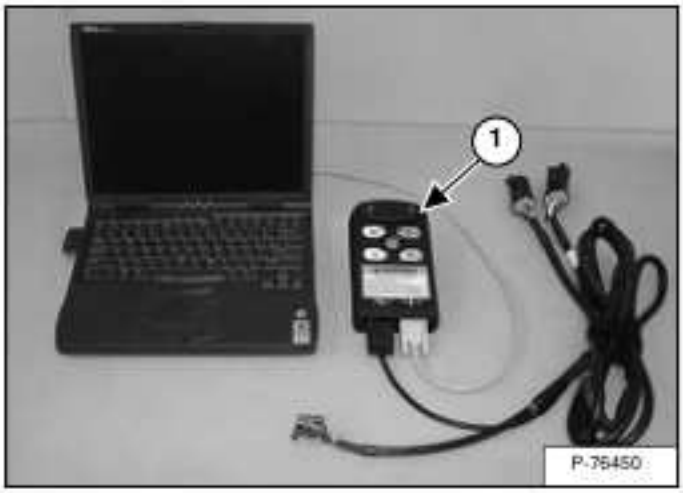
Pressing the RUN button on the Remote Start Tool disconnects the operator panel from the start circuit. If the service technician will be working in the engine area it is important to remove the operator panel key or lock the keypad with a unique password.

W-2647-0707

The tool listed will be needed to do the following procedure:

6689779: Remote Start Tool (Service Tool) Kit

Figure 10-61-23



The Remote Start Tool (Service Tool) (Item 1) **[Figure 10-61-23]** is required when the operator cab is in the raised position for service and the service technician needs to turn on the loader or start the engine. Example: adjusting the steering linkage.

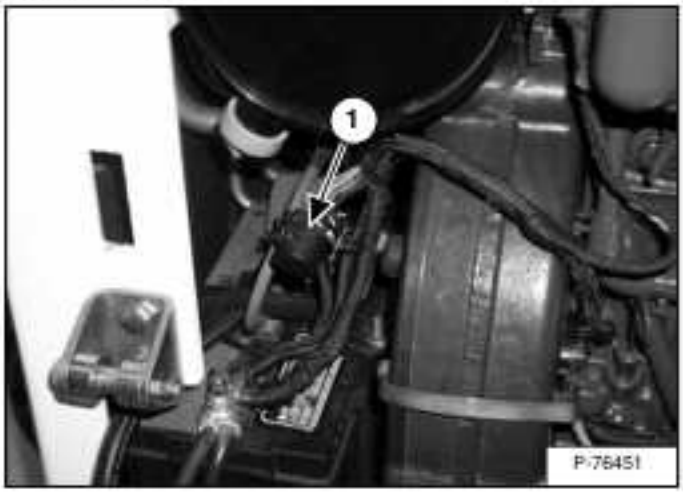
Lift and block the loader.

Raise the lift arms (if required by the procedure) and install an approved lift arm support device.

Raise the operator cab (if required by the procedure).

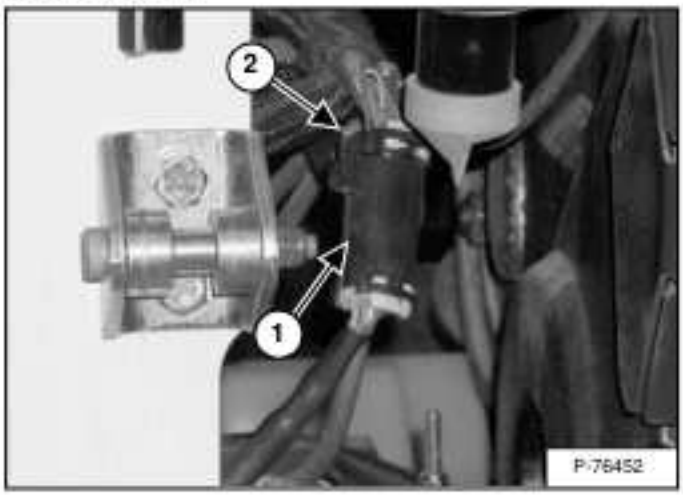
Open the rear door of the loader.

Figure 10-61-24



Loaders without an attachment control harness, remove the loader harness cap (Item 1) **[Figure 10-61-24]** and connect the Loader Service Tool Harness from the Remote Start Tool (Service Tool).

Figure 10-61-25



Loaders with an attachment control harness (7 pin or 14 pin), the attachment harness (Item 1) must be disconnected from the loader harness (Item 2) **[Figure 10-61-25]**.

When the remote start procedure is completed, replace the loader connector cap (Item 1) **[Figure 10-61-25]** or reconnect the attachment control harness to the loader harness **[Figure 10-61-25]**.

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HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH SJC OPTION
T140 (S/N A3L711001 – A3L719999)
(S/N A3L811001 – A3L819999)

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V-1101legend

LEGEND

1. RESERVOIR:
   Capacity . . . . . 14.0 qt. (13,2 L)
2. SPRING LOADED FILTER BY-PASS VALVE: 45-55 PSI (3,1-3,8 bar)
3. DIFFERENTIAL PRESSURE SWITCH:
   36-44 PSI (2,5-3,0 bar)
   Normally Closed
4. DRIVE MOTOR SHUTTLE VALVE
5. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5075 PSI (350 bar)
6. RELIEF VALVE - CHARGE INLET:
   360 PSI (24,8 bar)
   at High Engine Idle
   With 140 degrees F. (60 degrees C.) Fluid
7. FRONT AUXILIARY MANUAL PRESSURE BLEED-OFF VALVE
8. HYDRAULIC PUMP . . . . . Gear Type
   16.9 GPM (64,0 L/min.) at High Engine Idle
9. RELIEF VALVE - MAIN:
   2650-2750 PSI (183-190 bar)
   at Front Quick Couplers
10. PORT RELIEF/ANTICAVITATION VALVE
    3500 PSI (241,3 bar)
11. ANTICAVITATION VALVE
12. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
13. PORT RELIEF/ANTICAVITATION VALVE:
    . . . . . (Optional)
    3500 PSI (241,3 bar)
14. LOAD CHECK VALVE
15. LIFT CYLINDER SPOOL - MADE TO RESTRICT FLOW DURING BOOM DOWN BUT NOT DURING BOOM UP

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16. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BICS CONTROL
17. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - TILT CONTROL
18. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT CONTROL
19. PULL BUTTON ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT ARM BY-PASS
20. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - UNLOADING SPOOL
21. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - FLOW CONTROL SPOOL
22. FLOW DIVIDER ADJUSTMENT VALVE
23. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BASE
24. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - ROD
25. LOAD SHUTTLE VALVE - BLEED OFF
26. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - TWO COIL
27. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - REAR AUXILIARY
28. HYDRAULIC BRAKE - SPRING APPLIED - PRESSURE RELEASE
29. RESTRICTOR - 0.031 inch (0,8 mm)
30. RELIEF VALVE: 3300 PSI (228 bar)
31. FILTER - HYDRAULIC (CANISTER)
32. FILTER - CASE DRAIN (SINTERED BRONZE)
33. FILTER - BICS CONTROL VALVE (SCREEN)
34. CHECK VALVE - BUCKET POSITION VALVE
35. RESTRICTION
36. VARIABLE CAPACITY DISPLACEMENT BI-DIRECTIONAL HYDROSTATIC PUMP
37. SHUTTLE RELIEF VALVE
    (Not Adjustable - Factory Set)
    65 PSI (4,5 bar)
38. FIXED CAPACITY DISPLACEMENT BI-DIRECTIONAL HYDROSTATIC MOTOR
39. CHECK VALVE - With 80 PSI (5,5 bar) Spring
40. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
41. CHECK VALVE - BICS CONTROL VALVE
42. RESTRICTION - 0.343 inch (8,7 mm)
43. FILTER - Bob-Tach Valve
44. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - HYDRAULIC POWERED BOB-TACH
45. RESTRICTION - 0.089 inch (2,26 mm)
46. RESTRICTION - 0.025 inch (0,6 mm)
47. RELIEF VALVE - 2000 PSI (137 bar)
48. RELIEF VALVE - 1200 PSI (83 bar)
49. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)
50. CHARGE PUMP -
    12.8 GPM (48,5 L/min) at High Engine Idle
51. CHECK VALVE
52. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BRAKE
53. CHECK VALVE - With 300 PSI (20,7 bar) Spring with 0.016 inch (0,40 mm) orifice
54. SOLENOID ACTIVATED CONTROL VALVE - FORWARD/REVERSE
55. SERVO PISTON -Swash Plate
56. POSITION SENSOR -Swash Plate
57. CHARGE PRESSURE SENSOR
58. FIXED CAPACITY DISPLACEMENT HYDRAULIC MOTOR
59. ANTICAVITATION VALVE
60. PROPORTIONAL RELIEF VALVE –
    (Fan Speed Regulator):
    1566 - 1784 PSI (108 - 123 bar)

NOTE: Unless otherwise specified, springs have NO significant pressure value.

V-1101legend (2-12-08)

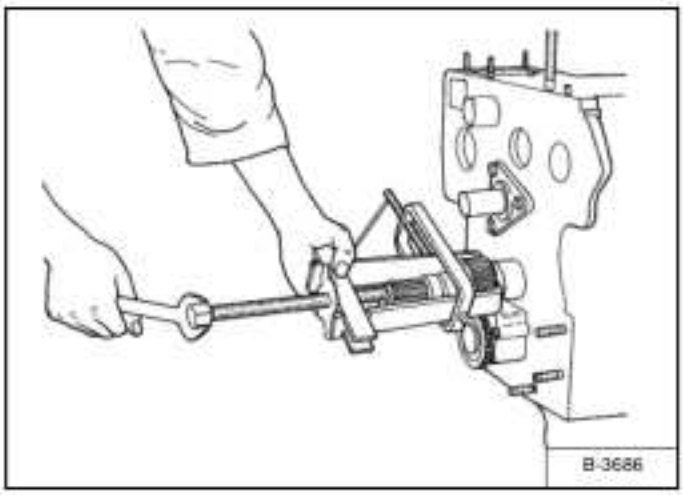
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Crankshaft Gear Removal And Installation

Remove the timing gearcase cover. (See Timing Gearcase Cover Removal And Installation on Page 70-100-1.)

Remove the idler gear. (See Idler Gear And Shaft Servicing on Page 70-100-6.)

Figure 70-90-53



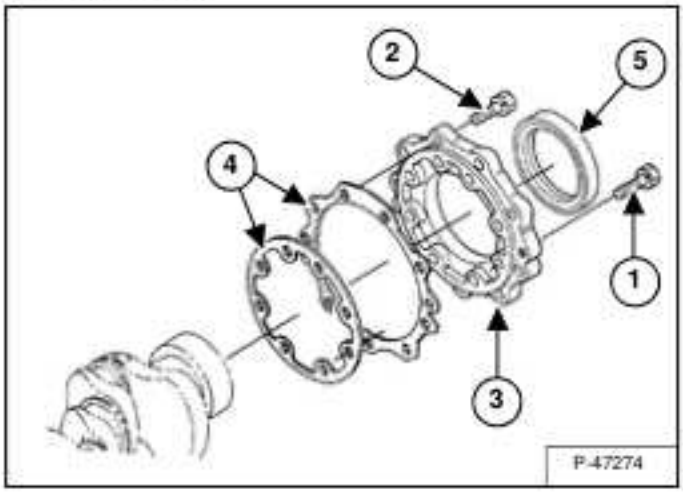
Remove the crankshaft gear with a puller **[Figure 70-90-53]**.

Remove the crankshaft key.

Crankshaft And Bearings Removal And Installation

Remove the piston and connecting rod assemblies. (See Piston And Connecting Rod Removal And Installation on Page 70-90-1.)

Figure 70-90-54



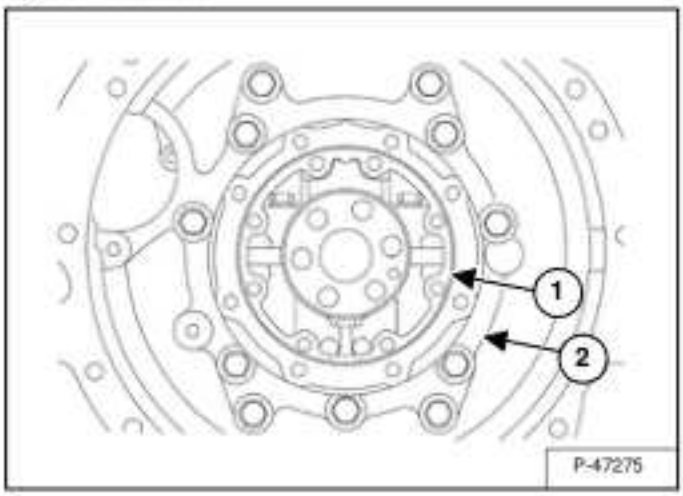
Mark and remove the inside screws (Item 1) first, then remove the outside screws (Item 2) **[Figure 70-90-54]**.

NOTE: The inside bolts are different length than the outside bolts.

Install two screws in the bearing case cover and remove the cover (Item 3) **[Figure 70-90-54]**.

Remove the two gaskets (Item 4) and oil seal (Item 5) **[Figure 70-90-54]** from the cover.

Figure 70-90-55



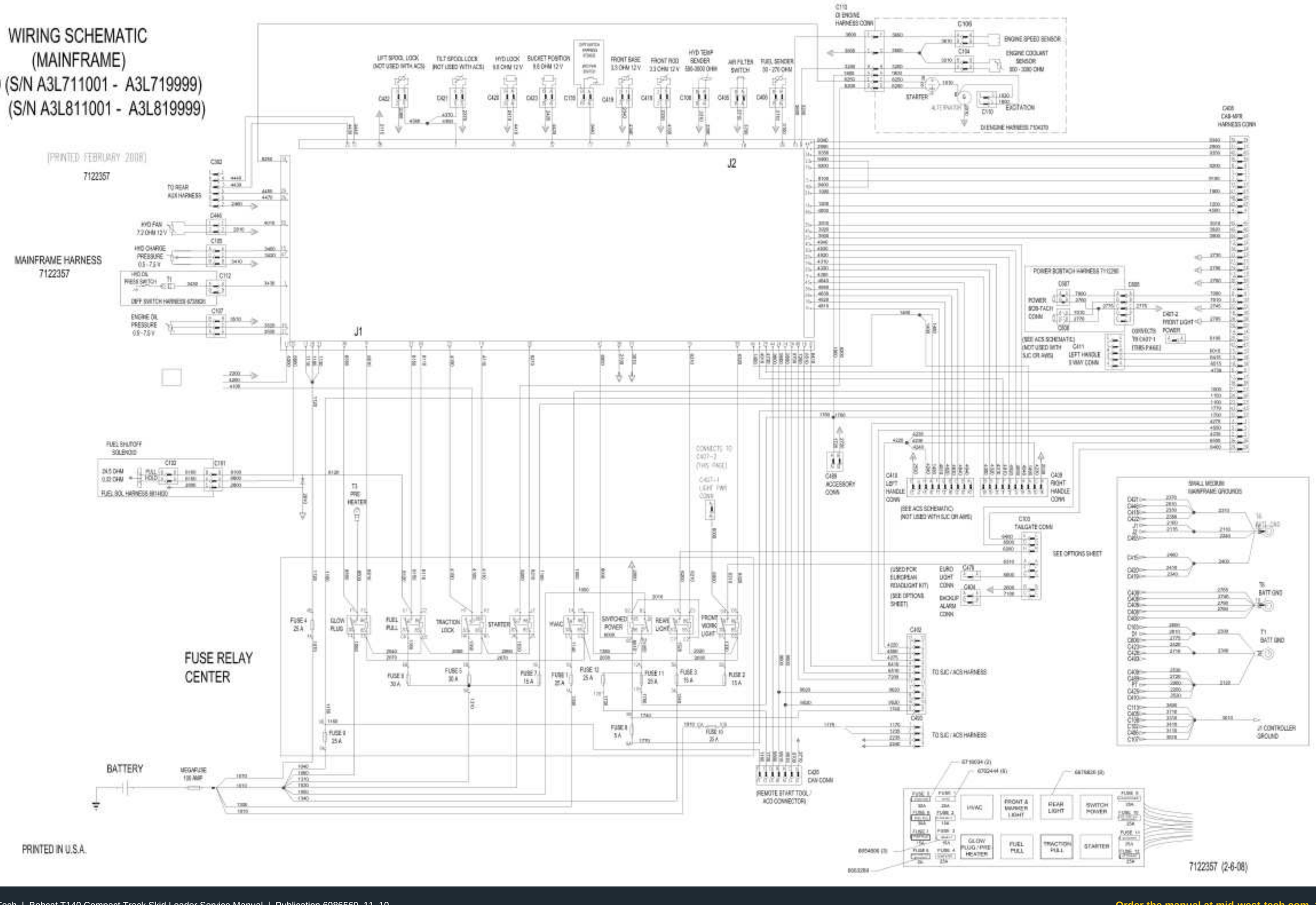
Installation: Install the gaskets (Item 1) & (Item 2) **[Figure 70-90-55]** as shown.

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WIRING SCHEMATIC
(MAINFRAME)
T140 (S/N A3L711001 - A3L719999)
(S/N A3L811001 - A3L819999)

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