SERVICE MANUAL

T7.175 / T7.190 / T7.210
T7.175 AutoCommand™ / T7.190 AutoCommand™
T7.210 AutoCommand™ / T7.225 AutoCommand™

Tier 4B (final)

Tractor

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MidWestTech | New Holland T7.175, T7.190, T7.210, T7.225 AutoCommand Tier 4B Tractor Service Manual | Publication 47936462

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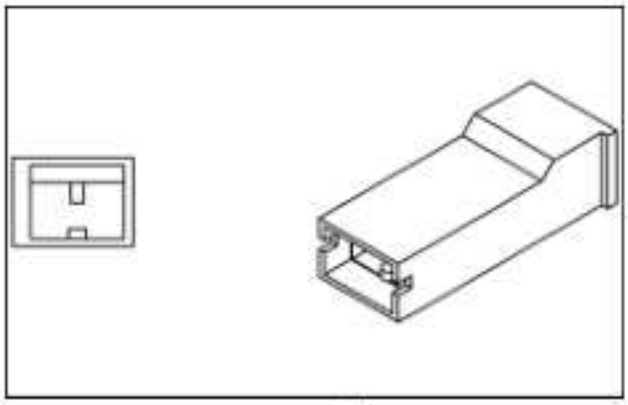
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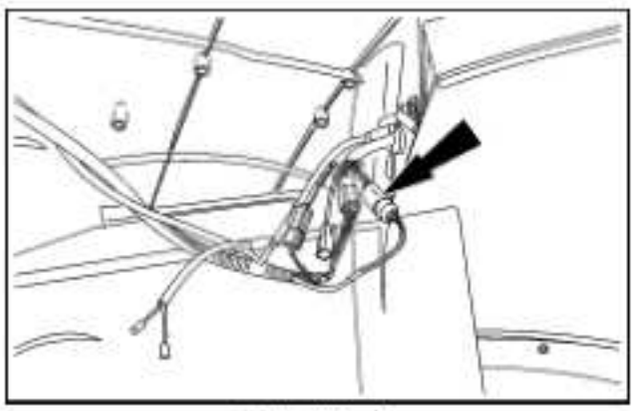
CONNECTOR X-107 - Cab main harness to grab rail headlight harness

T7.175, T7.190, T7.210, T7.225 AutoCommand
T7.175, T7.190, T7.210 – Sidewinder II

CONNECTOR X-107 - On harness 47662232 [up to 10/2014]			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	CM-1030A (BL)	-	**Wiring harnesses - Electrical schematic sheet 38 (55.100)**



87981782 27



SVIL197R0047AAA 28

Right-hand side fender

T7.175, T7.190, T7.210 – Standard

CONNECTOR X-107 - On harness 47665262 [up to 10/2014]			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	CM- 1030A (BL)	-	**Wiring harnesses - Electrical schematic sheet 38 (55.100)**

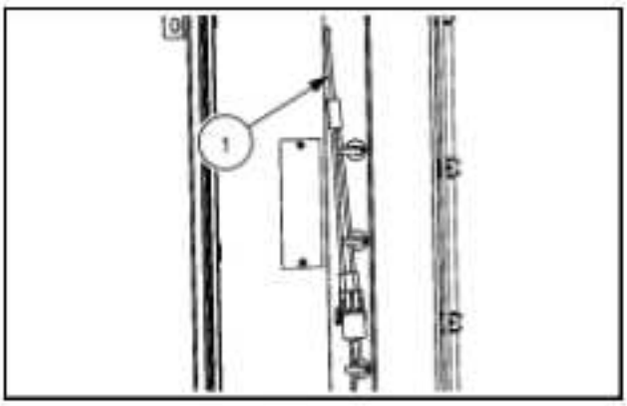
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Temperature sensor Evaporator temperature sensor - Overview

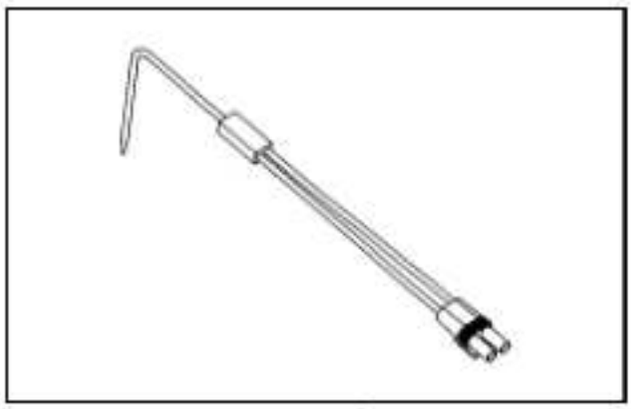
T7.175 AutoCommand™	NA Cab climate control - Auto Temperature Control (ATC)
T7.175	NA Cab climate control - Auto Temperature Control (ATC)
T7.190 AutoCommand™	NA Cab climate control - Auto Temperature Control (ATC)
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T7.210 AutoCommand™	NA Cab climate control - Auto Temperature Control (ATC)
T7.210	NA Cab climate control - Auto Temperature Control (ATC)
T7.225 AutoCommand™	NA Cab climate control - Auto Temperature Control (ATC)

Evaporator temperature sensor B-054

The evaporator temperature sensor **(1)** is behind the operator seat in the air-conditioning housing.



SS14D001 1



SS14D002 2

Design	NTC

Temperature	Thermistor
0 °C (32.0 °F)	**66000 Ω**
4.44 °C (40.0 °F)	**52625 Ω**
10 °C (50.0 °F)	**40011 Ω**
15.56 °C (60.0 °F)	**30713 Ω**
21.11 °C (70.0 °F)	**23791 Ω**
25 °C (77.0 °F)	**20000 Ω**
30.56 °C (87.0 °F)	**15736 Ω**
36.11 °C (97.0 °F)	**12475 Ω**

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12192-Fault on shuttle lever park switch line

Control Module : EPL

NOTE: *When the cause of the error code has been rectified, clear the error code and test the system for normal operation.*

NOTE: *To electronically release and disable the Electronic Park Lock (EPL) when carrying out maintenance on the system, use the H1 calibrations menu in the XA module. Select* ***(SC)*** *and perform the accelerometer stroke calibration procedure but stop the process when* ***(M)*** *is displayed and turn the ignition switch OFF. For further information, refer to* ***Electronic park lock actuator/controller - H1 - Calibration procedures (55.031).***

If electronic release is not possible, remove the EPL cover and use the special tool supplied in the cab to manually disengage the EPL.

NOTE: *When clearing the stored memory in H8 in the XA module or installing a new EPL, make sure the correct EPL orientation is selected in H3 in the XA module, channel 3. Refer to* ***Electronic park lock actuator/controller - H3 - Configurations and options (55.031).***

Cause:
The fault triggering condition is 'always'.

Possible failure modes:

1. Faulty connector
2. Faulty wire harness
3. Faulty shuttle lever
4. Faulty Electronic Park Lock (EPL) assembly

Solution:

1. Make sure the machine is parked on a level surface and chock the front wheels using suitable wheel stops.

   A. Continue to Step **2**.

2. Check for other error codes being displayed.

   A. If any other error code is being displayed, continue to these tests.

   B. If no other error code is displayed, continue to Step **3**.

3. Before proceeding clear the error code using either the on board HH menu or approved diagnostic equipment. Turn the ignition switch OFF, wait for 5 seconds and then turn the ignition switch ON. Operate the system and check for the error code.

   A. If the error code is not indicated, check that the system is operating correctly.

   B. If the error code is indicated, continue to Step **4**.

4. Check the EPL connector **X-745** and the shuttle lever connector **X-012**. Ensure the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight.

   A. If a fault is indicated, repair or replace as required.

   B. If the connectors are okay, continue to Step **5**.

5. Check the shuttle lever park switch in H5 in the XA controller, refer to **Electronic park lock actuator/controller - H5 - Switch operation test (55.031)**.
   Turn the ignition switch ON. Move the shuttle lever into park.

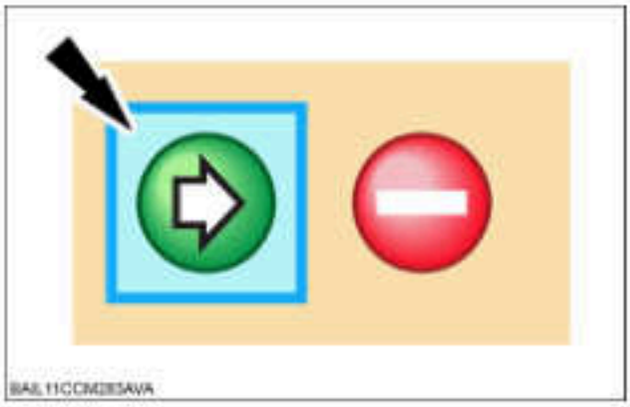
   A. If the display does not change to d28, continue to Step **6**.

   B. If the display does change to d28, while still in H5 wiggle the wire harness and the connectors to check for an intermittent circuit. The display will change if an intermittent circuit is detected, repair or replace as required.

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Step 5c. Accumulator Test Procedure:

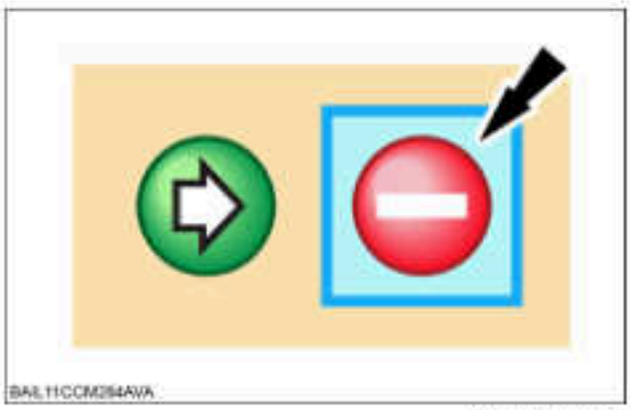
- On the DATAR Scope, in the bottom left corner, verify the capture trigger is "ready" to start capturing data. This is indicated with a green ball highlighted in blue as shown in the figure to the right. If the scope is not ready, then press the keyboard SPACE bar to change the scope trigger state to ready.
- Press and hold the DOWN SHIFT button on the transmission shift lever to run the accumulator test. The machine display will count up from 1 to 10. When the test is finished the display will show "END". This test will take about 15 seconds.



BAIL11CCM283AVA 49

NOTE: *The accumulator test can only be run if "ACC" is selected in step 3 above. Only the down shift button is used with this test.*

- On the DATAR Scope, when the test ramp is finished, then press the PC SPACE bar to capture and hold the result trace.
- Compare the DATAR measured trace with the expected result trace shown on the next Valve Test Assistant screen. (Remember ALT-TAB to switch between the programs)



BAIL11CCM284AVA 50

NOTE: *During the ACC test, the machine software makes five quick engagements of the L, M, H clutches.*

Step 6. Save the waveform in DATAR Scope:

- On the DATAR scope, go to the FILE menu and select one of the SAVE options to store the waveform on the PC (e.g. Save Current Waveform).

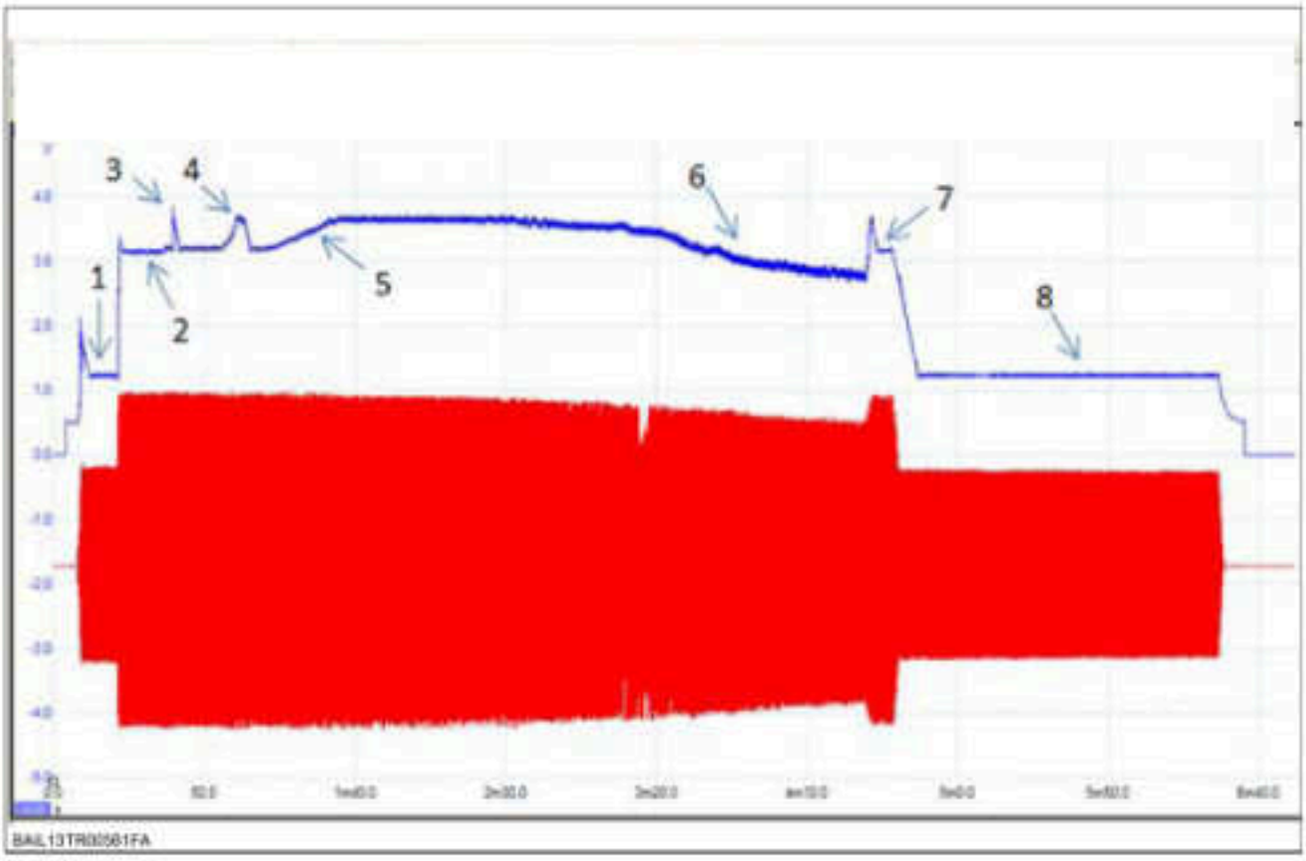
NOTE: *It is recommended that you save the waveform so that you can refer to this historical data in the future for this machine serial number.*

Unexpected Conditions

If the test conditions are not correct then the following fault codes will be displayed:

Code	Error
CL	Transmission oil temperature is below **45 °C** (**113 °F**)
CH	Transmission oil temperature is above **55 °C** (**131 °F**)
U17	Seat switch not activated (Operator not in seat)
U20	Handbrake not applied
U21	Engine speed is below **1100 RPM**
U22	Engine speed is above **1300 RPM**
U23	Shuttle lever is in neutral, shift to forward
U26	Clutch pedal is not fully up, release clutch pedal
U127	Transmission oil temperature is below **10 °C** (**50 °F**)
U128	Transmission oil temperature is above **105 °C** (**221 °F**)

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BAIL13TR00581FA 6

Waveform notes (with load applied)

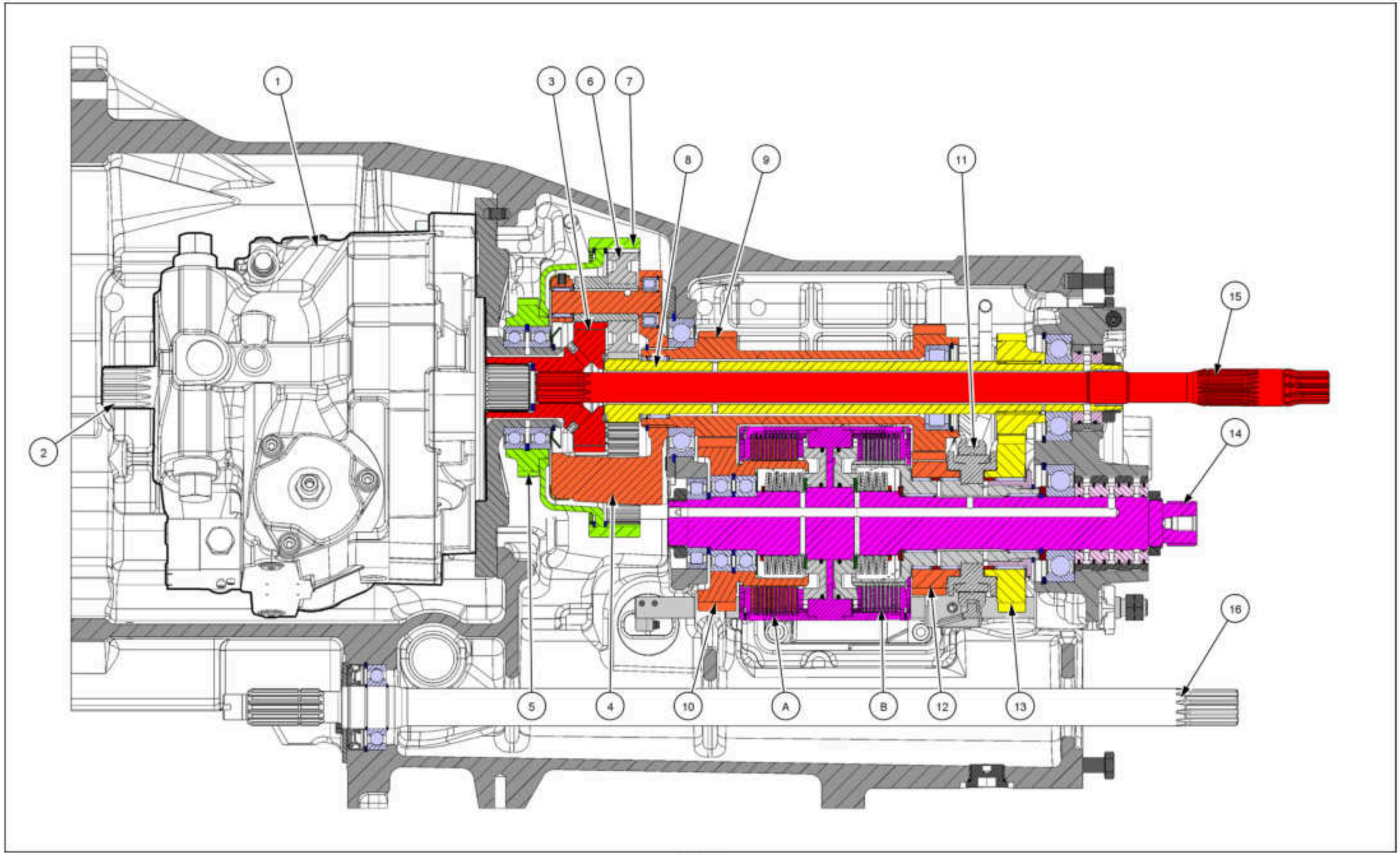
The example waveform shows the same test, but with load applied (dyno test).

During the example waveform the tractor is started and run at idle for approximately 20 seconds. It is then increased to maximum RPM and dyno tested. Once the dyno test has finished the engine RPM was increased to maximum and then returned to idle at the end of the trace.

The fuel rail pressure signal has been annotated to aid analysis

1. Engine at low idle
2. Engine at maximum RPM
3. Dyno engaged
4. Dyno auto run started
5. Fuel rail pressure gradually increases as engine load increases
6. Fuel rail pressure starts to drop off as engine rpm falls due to dyno load
7. Test finished and engine goes back to maximum RPM, rail pressure returns to high RPM pressure
8. Engine is returned to idle for cool down before being keyed off, rail pressure falls to idle pressure

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