SERVICE BULLETIN

3 Drum Winch Freewheel on Deadman

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Applicable Vehicles:	10456-10609, 10667, 10696, 10712, 10715, 10723, 10796, 10826, 10836, 10897, 10915, 10969, 10975, 11007, 11008, 11019. 11131, 11178, 11187
Issue Date:	05 December 2019
Overview:	This procedure outlines the actions required to correctly include the deadman foot switch into the circuit controlling the freewheel function.

Ensure all of this work is carried out in a safe working environment. All work is to be carried out by a competent tradesperson.

Parts & Equipment Required:	Safety Glasses & relevant PPE Standard Auto-Electrical tools and parts - Screwdrivers - Side cutters - Crimp tool & terminals - Wire, zip-ties, etc. New Parts: 12V or 24V Automotive Relay if required. See below:

New parts only required for Serial Numbers 10796-11187:

Part Number	Description	Quantity
54C04001	Relay Automotive 12V (30A contact) *OR*	1
54C04002	Relay Automotive 24V (30A contact)	
54C05003	Relay Holder	1

Typically, all skid mounted 3 drum winches (with own dedicated power unit) will be a 12V system. Truck mounted winches where power is truck driven will be a 24V system.

1 Introduction

This procedure is to be followed when changing the freewheel circuit to require the activation of the deadman foot switch. Please read and understand all steps before starting work.

2 Freewheel Function Test Procedure

It is best to test the function of the freewheel on the 3 Drum Winch first. The freewheel on deadman circuit change may have already been implemented on the winch.

Begin by checking operation of the freewheel function:
1. Ensure other personnel are clear of the winch, and all other safety requirements are adhered to.
2. Start engine when safe to do so.

Figure 1: Example Operator's Console.

3. Turn WINCH 1 on and select F'WHEEL. Leave WINCH 2 and WINCH 3 switches in the off position. Disc brake is to be turned off as well.
4. Test to see if WINCH 1 is in freewheel mode – have a second person try to rotate the drum by hand. Take care when rotating the drum by hand. Note that a bit of force will be required to rotate the drum manually by hand.
   Two outcomes from this are:
   a. If the drum rotates then the freewheel on deadman changes are needed. Refer to Section 3 for procedure to change circuit.
   b. If the drum does not rotate, then test with the deadman foot switch active and verify it does now rotate. No changes to the circuit are required.

3   Procedure

Follow the applicable procedure below based on the Serial Number of the 3 Drum Winch which requires the freewheel on deadman changes.
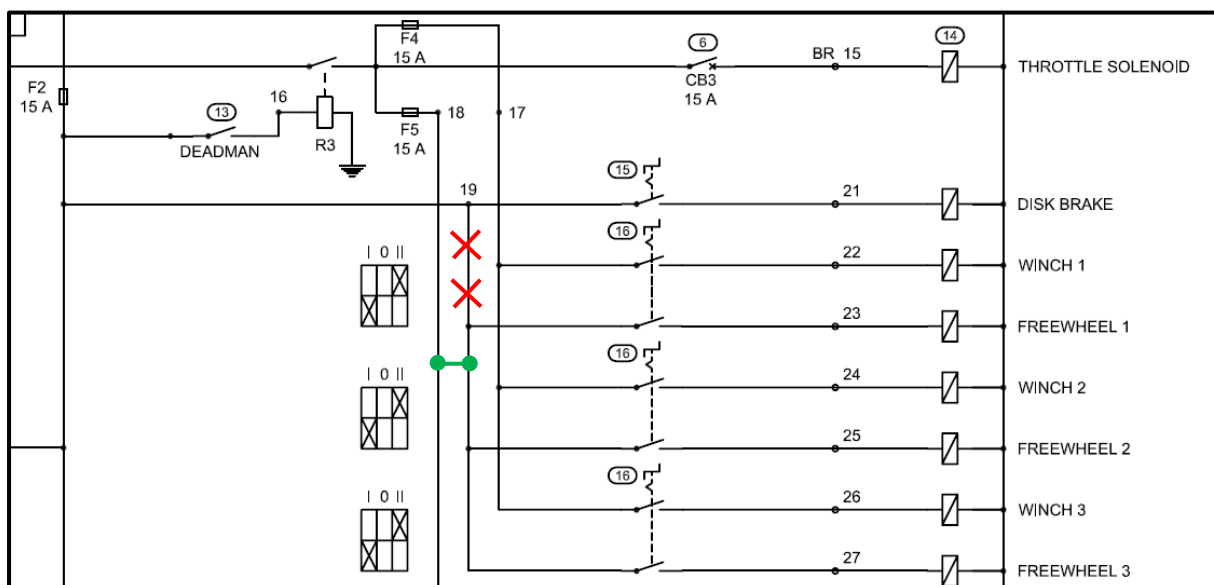
For Serial Numbers 10456-10715:
1. Begin with the winch switched off and battery isolated.
2. Remove the Operator's Console panel to access terminal strip – refer Figure 2.

Area clear for display clearance.
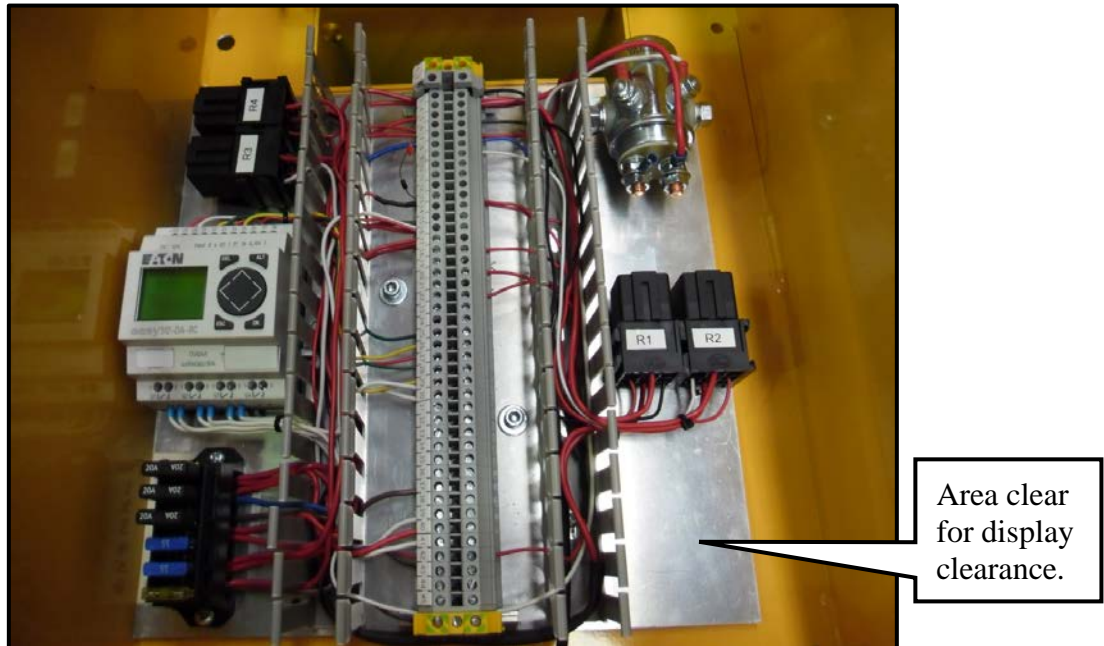
Figure 2: Example electrical board layout underneath Operator's Console panel

3. Locate Terminal 19, disconnect the freewheel wires connected to it and join them to Terminal 18. Replace with new wires if necessary. Refer to Figure 3 – remove wire crossed out (red) and move wires onto Terminal 18 (green).
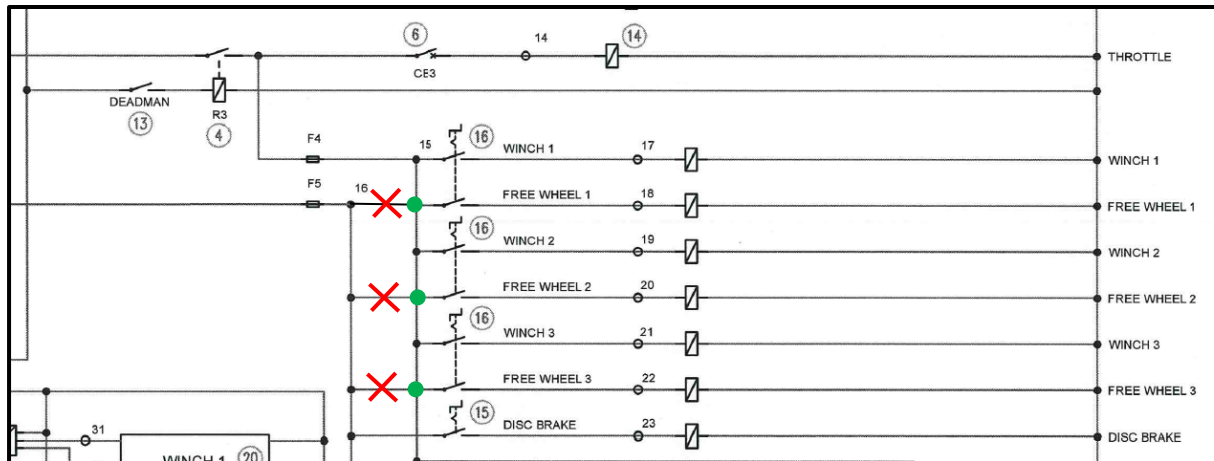

Figure 3: Circuit diagram example for SN10456-10715

4. Re-fit the console panel and test. Freewheel will now only be possible while the deadman foot switch is pressed.

For Serial Number 10715 (not fitted with Freewheel isolation relay):
1. Begin with the winch switched off and battery isolated.
2. Remove the Operator's Console panel to access the terminal strip – refer Figure 2.
3. Disconnect the freewheel wires connected to Terminal 16.
5. Move these disconnected wires onto Terminal 15. Replace with new wires if necessary. Refer Figure 4 – wires with Red X to be disconnected, and joined at the Green dot.

Figure 4: Circuit diagram example for SN10715

4. Re-fit the console panel and test. Freewheel will now only be possible while the deadman foot switch is pressed.

For Serial Numbers 10796-11187 (fitted with Freewheel isolation relay):
3 Drum Winches built in 2011 or later will have a Freewheel isolation relay fitted by default. The Operator's Console panel will have a Freewheel Reset pushbutton if the isolation relay is wired into the system – refer to Figure 5 for example console panel.
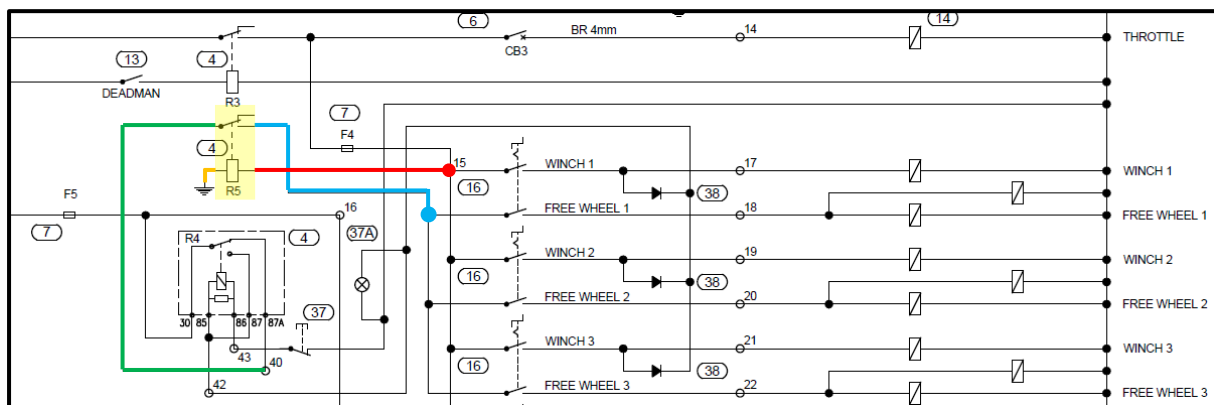

Figure 5: Console Panel with Freewheel Reset button

Note that changing the freewheel function to require deadman activation will need an additional relay to suit this configuration.
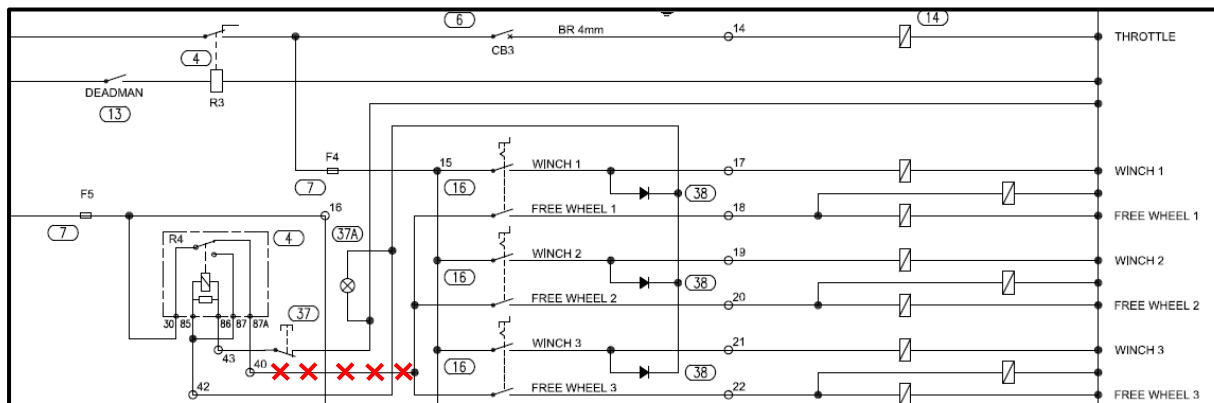
Figure 6: Original circuit with Freewheel Isolation Relay for SN10796-11187

Figure 7: Freewheel Isolation Relay circuit with Freewheel on Deadman

1. Begin with the winch switched off and battery isolated.
2. Remove the Operator's Console panel to access the terminal strip – refer Figure 2.
3. Disconnect the Freewheel Switch wire/s connected to strip Terminal 40 - refer to Figure 6.
4. Ensure that the remaining wire on strip Terminal 40 is still connected to relay R4 terminal 87A.
5. Fit and install relay (R5) then wire as per the following (refer Figure 7):
    a. Fit relay & relay holder where space is available. The left or right side walls are likely the easiest access. Note that the bottom right corner is to remain clear as the panel mount displays have a long depth.
    b. Add wire from strip Terminal 40 to relay R5 terminal 30 (shown with green line highlight).
    c. Add the disconnected Freewheel Switch wire/s onto relay R5 terminal 87 (shown with blue line highlight)
    d. Add wire from strip Terminal 15 to relay R5 terminal 85 (shown with red line highlight)
    e. Connect Relay R5 terminal 86 to ground (shown with orange line highlight)
6. Re-fit the console panel and test. Freewheel will now only be possible while the deadman foot switch is pressed.

Please contact Redmond Gary if you are unsure on any instruction.