



Model: 500/650/750 Ton TDs

Serial #: All

Feb. 6, 2020

Product Bulletin # TDS-213 v 1.0

Alert



Top Drive Limit Switch Guard

Issue

Incorrect installation of the top drive limit switch guard (Canrig P/N: 929-10-5) creates a risk that a winch cable will snag (see Figure 2 on page 2) on the limit switch guard while using hoisting lines.

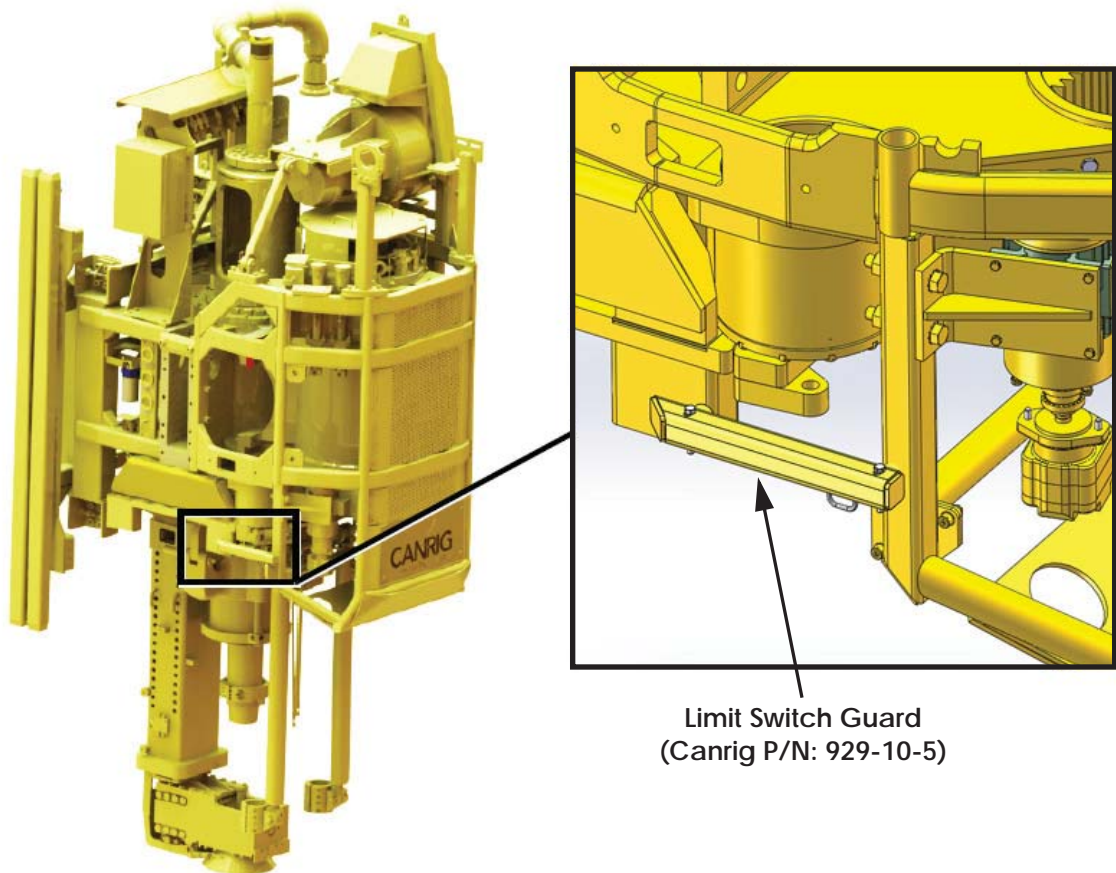


Figure 1: Limit switch guard location



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Limit Switch Guard
(Canrig P/N: 929-10-5)
was installed incorrectly

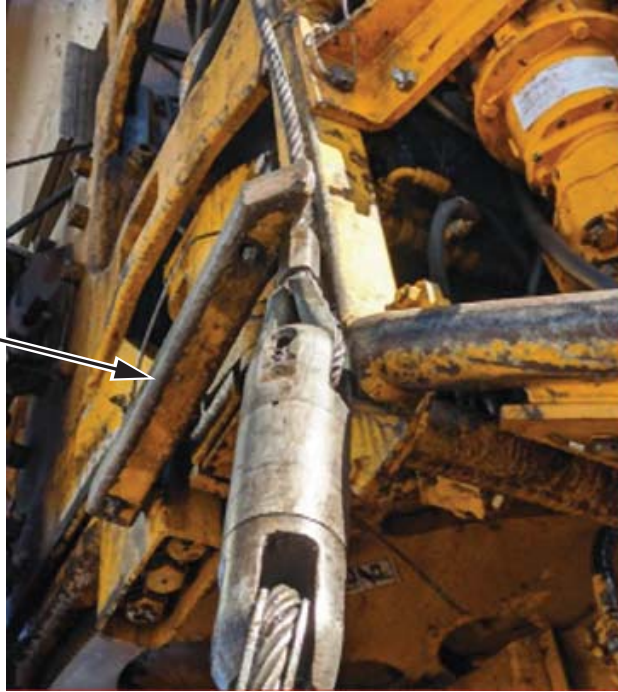


Figure 2: Winch line stuck in limit switch guard (Canrig P/N: 929-10-5)

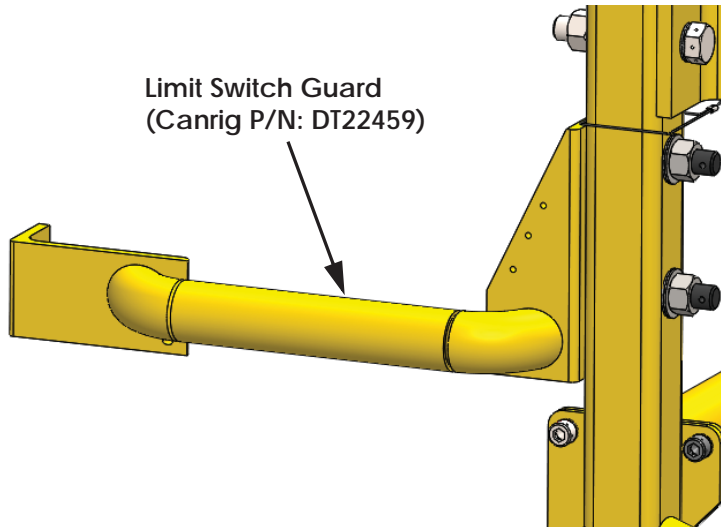


Figure 3: Limit switch guard (Canrig P/N: DT22459)

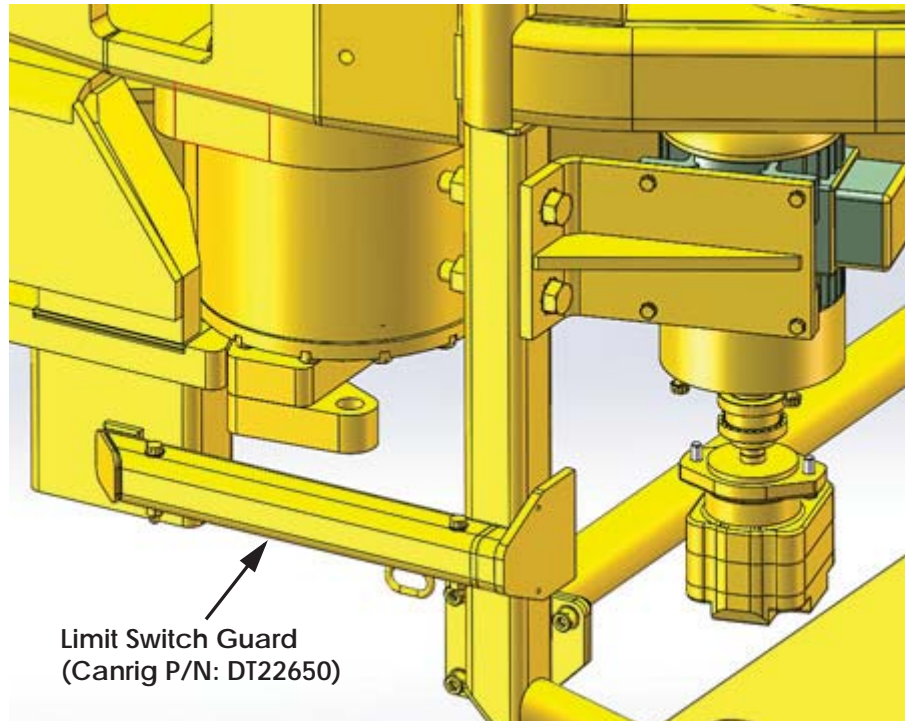


Figure 4: Modified limit switch guard (Canrig P/N: DT22650)

Affected Top Drive Models

1050E-712, 1165E-712, 1175E-712, 8050AC-712, 1250AC-681, 1275AC-681, and 1275AC-865.

Recommended Action

1. Visually inspect the limit switch guard on top drive to identify which limit switch guard is installed. Verify the fasteners are properly torqued and safety securement is installed.
2. No further action is required if:
 - 2a. Limit switch guard Canrig P/N: DT22459 is correctly installed (refer to Figure 3 on page 2).
 - 2b. Limit switch guard Canrig P/N: 929-10-5 is installed and was modified per Canrig Product Alert TDS-150 (released on July 28, 2015).
 - 2c. Limit switch guard was correctly replaced with modified design Canrig P/N: DT22650 (refer to Figure 4 above).



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3. If the unmodified limit switch guard Canrig P/N: 929-10-5 is installed (refer to Figure 1 on page 1 and Figure 2 on page 2), modify the limit switch guard per following instruction.

Instruction to Modify the Limit Switch Guard P/N: 929-10-5 into Canrig P/N: DT22650



Figure 5: Unmodified limit switch guard Canrig P/N: 929-10-5

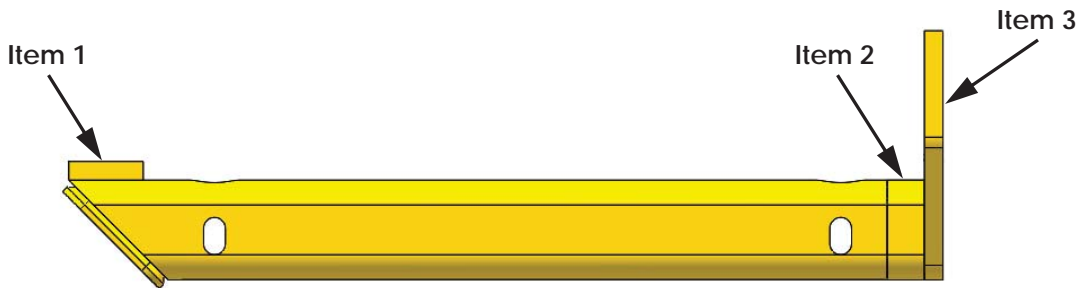


Figure 6: Modified limit switch guard Canrig P/N: DT22650

1. Refer to Figure 7 for details of item 1 and item 3.
 - 1a. Cut the HSS (Item 2, 2 X 2 X ¼") to the appropriate length so the top plate (Item 3) sits flush on the HSS of the top drive guard as shown in Figure 10 on page 7.

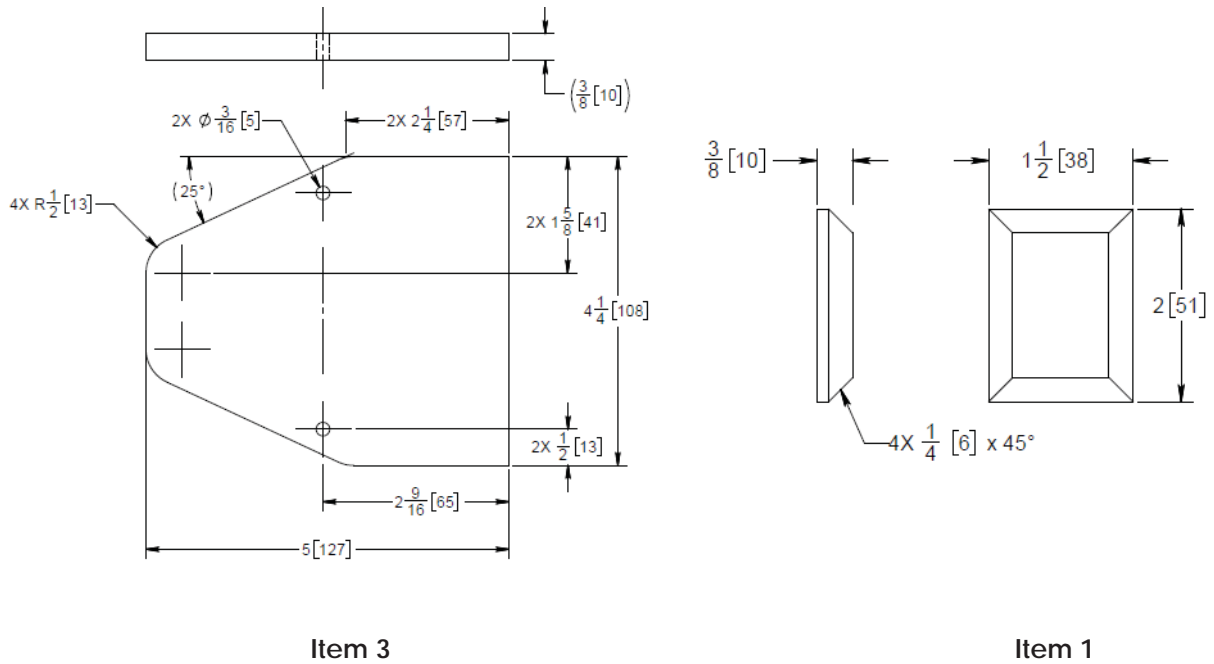


Figure 7: Details for item 1 and item 3

2. Remove the limit switch guard Canrig P/N: 929-10-5 from the top drive guard.
3. Grind the weld to detach the top plate on the limit switch guard and clean the surface for weld (refer to Figure 8).



Figure 8: Grind the weld to detach top plate



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- Use a low hydrogen welding rod E7018 to weld the spacer (Item 1), HSS (Item 2) and top plate (Item 3) to the limit switch guard as shown in Figure 9. Allow weld to slowly cool to ambient temperature using thermal blanket. Do not quench the weld.

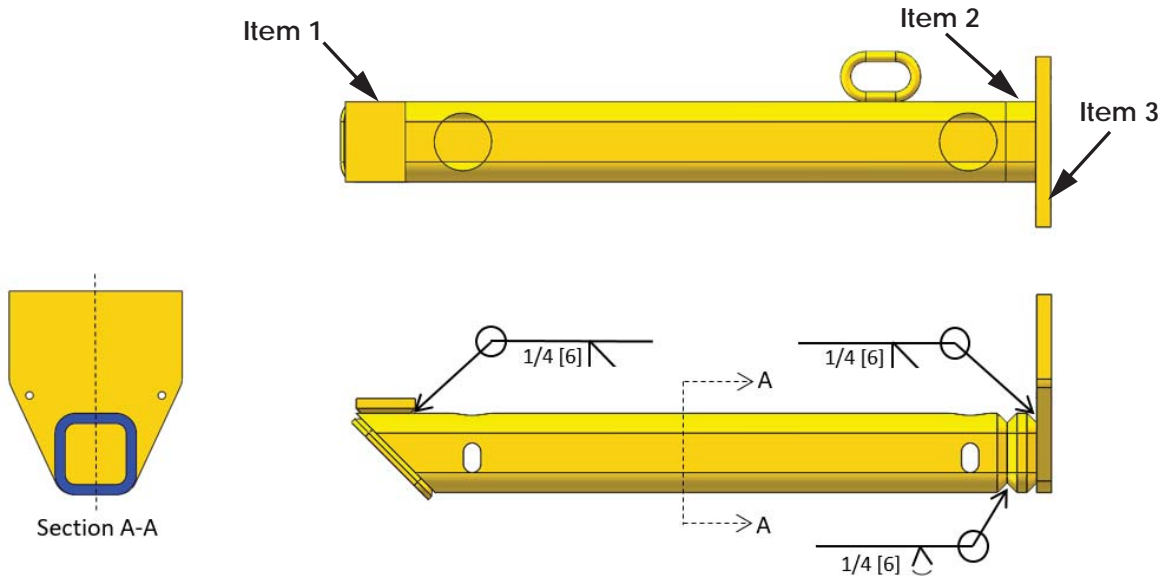


Figure 9: Fabrication details

- Perform a MPI (Magnetic Particle Inspection) to verify no cracks are present and then paint to prevent corrosion.



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6. Mount the modified limit switch guard with the new fasteners (Grade 8 – 3/8" Hex head Capscrews 2 3/4" Long, 3/8" Lock Nut and Nord-Lock Washers). Use 1/16" wire rope to secure the fasteners. Use 1/8" wire rope to secure modified limit switch guard with top drive as shown in Figure 10.

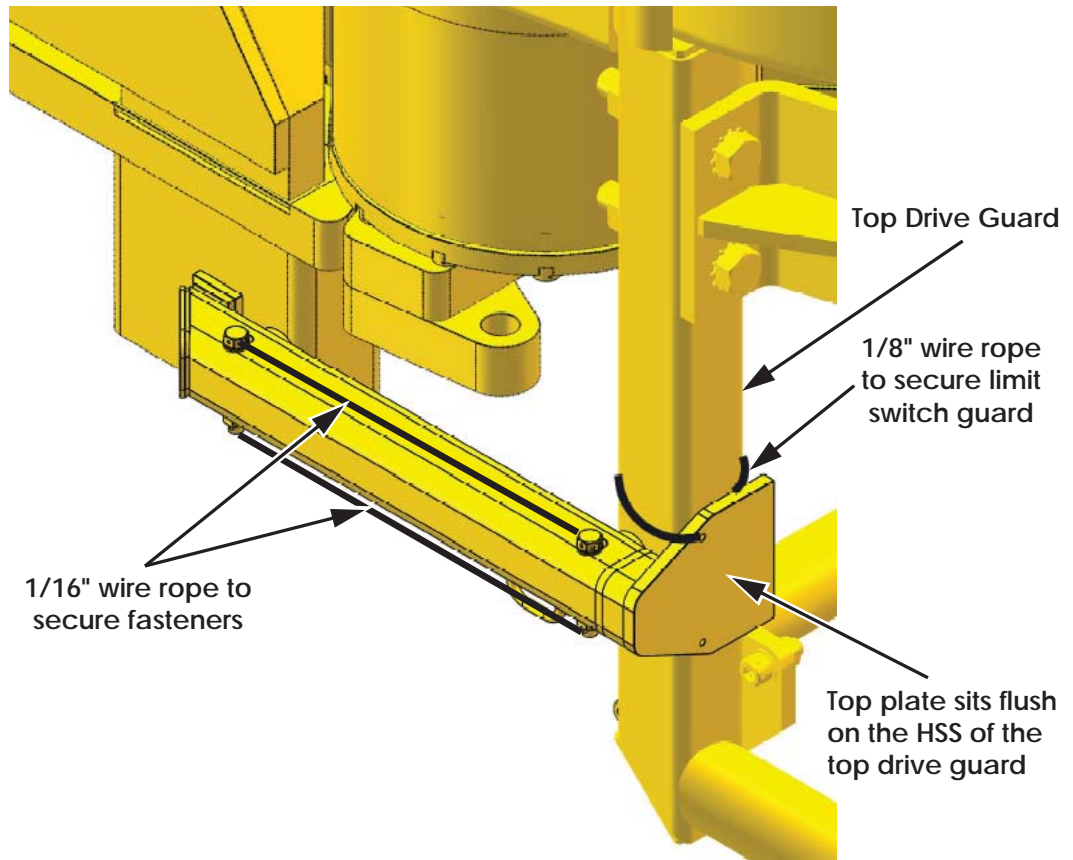


Figure 10: Modified limit switch guard securement



Limit Switch Guard Modification

Issue

Care should always be taken when using lifting or winch cables around the top drive. There should always be someone monitoring the top drive to ensure nothing gets hooked or snagged. There are two gaps between the limit switch guard and the main guard assembly, located on the 500/650/750 ton top drive guard assemblies. Without proper monitoring, cables could inadvertently get in-between the components and potentially dislodge the limit switch guard and cause it to fall.

Models Affected

1050E-712, 1165E-712, 1175E-712, 8050AC-712, 1250AC-681, 1275AC-681, and 1275AC-865.

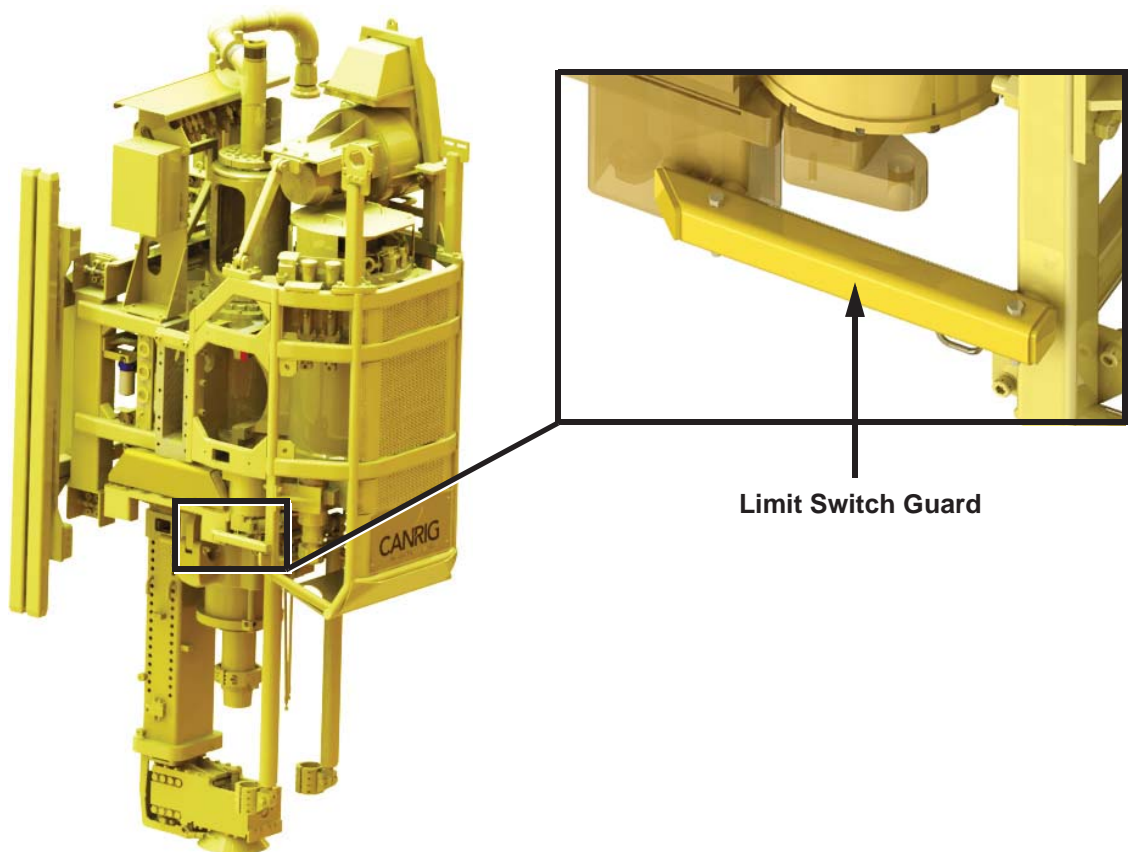


Figure 1: Top Drive Limit Switch Guard Location

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Recommendation

1. To prevent a cable from getting behind the limit switch guard, ensure care is taken when using wire rope in the area shown in Figure 2.



Figure 2: Limit Switch Guard

2. To minimize the risk of getting a line behind the guard, a plate/bar can be welded to the limit switch guard as shown in Figure 3. Remove limit switch guard before welding on the two plates/bars. Weld the plate/bar as per Canrig specification ENG 704.

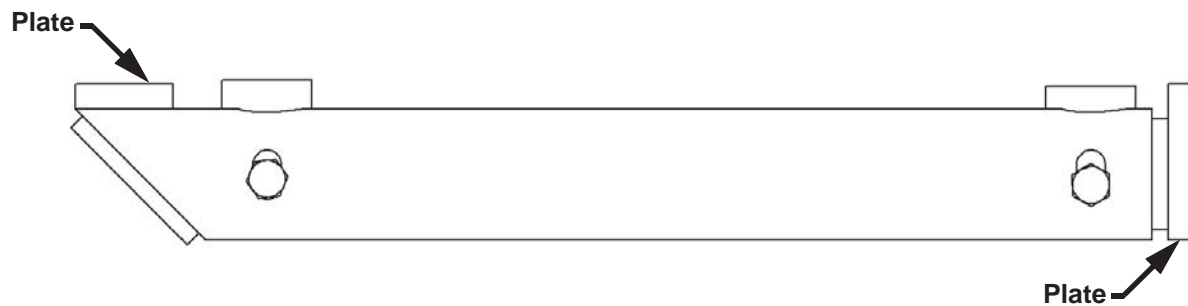


Figure 3: Limit Switch Guard with Plates

3. Ensure the bolt heads are drilled for safety wire. Replace if necessary with 3/8" UNC X 2 3/4" LG Hex Head Cap Screw, Grade 8.
 - Route safety wire from one limit switch guard bolt head to the other one and then route the wire to connect to the existing chain link. See Figure 4 and Figure 5 on page 3.
 - To secure the bolt ends, drill a 1/8" hole at the bolt end and route safety wire from the end of each bolt to the existing chain link. See Figure 5 on page 3.
 - Use 1/16" safety wire and ferrules as per Canrig specification ENG 701.

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4. Route safety wire around the top drive guard member and through the chain link as shown in Figure 4 and Figure 5.
 - Use 1/8" safety wire and ferrules as per Canrig specification ENG 701.

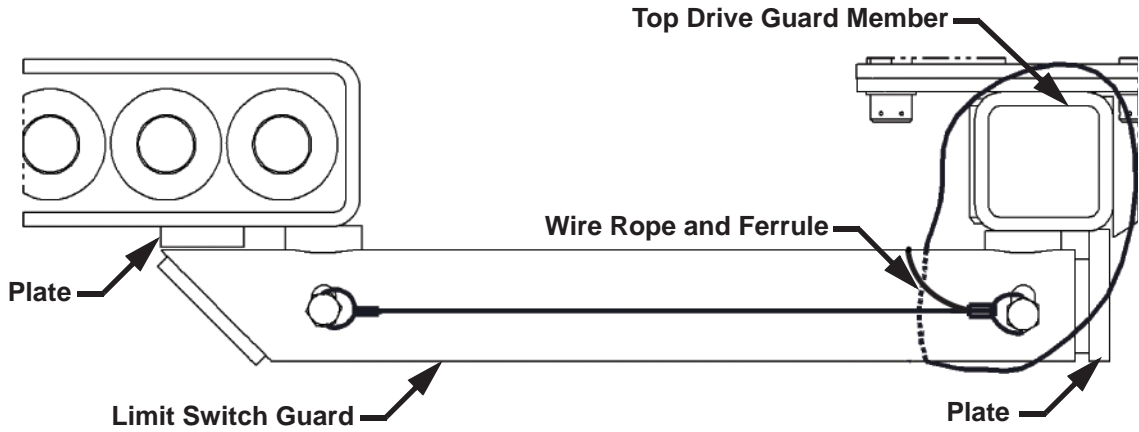


Figure 4: Top View

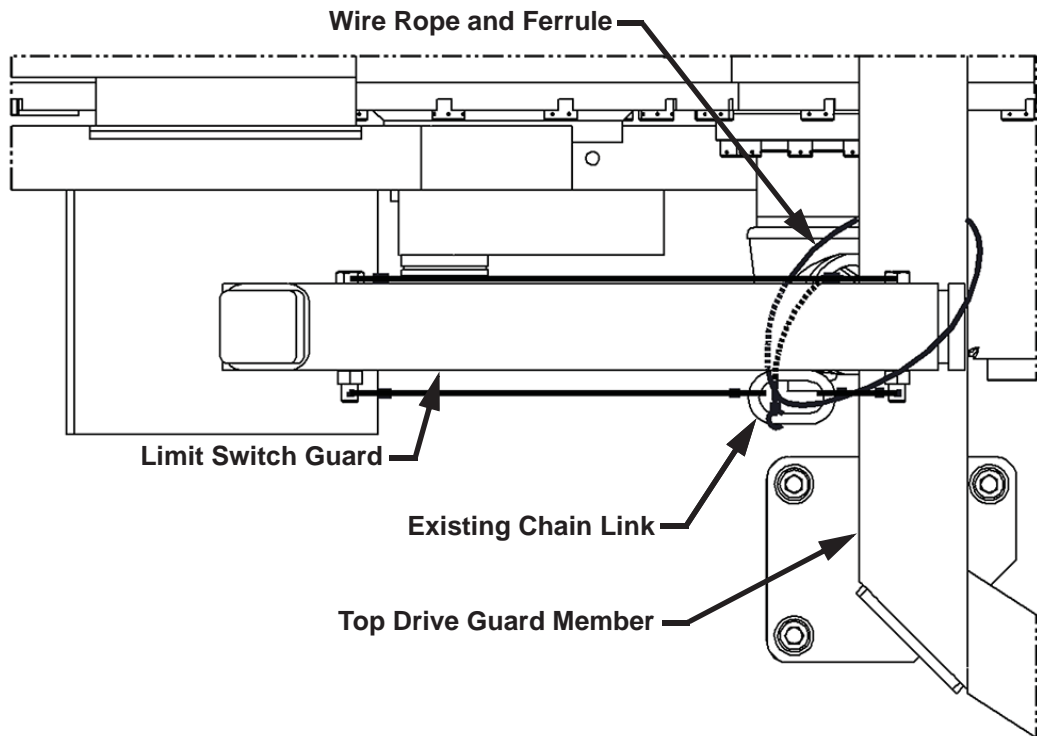


Figure 5: Front View