

January 5, 2021

Subject: Service Bulletin 159-047-00, Rev. 0 for Electric Swivels

Affected Swivel Kit Numbers: 200-372-00, 200-373-00, 200-402-00

Affected Swivel Assembly Numbers: 232-457-00, 232-457-30

Dear Valued Customer:

Onboard Systems has issued a Service Bulletin for the above-referenced parts and we strongly recommend that all operators comply with the instructions provided. This service bulletin and updated manuals may also be downloaded from our website at:

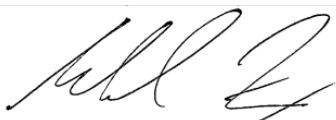
<https://www.onboardsystems.com/document/bulletins>

Please review this Service Bulletin and determine if the equipment is still in your possession. If this equipment is no longer in your possession, please forward this information to the current owner or your customer.

Onboard Systems will stock the materials required to comply with this service bulletin, to be supplied FOB Onboard's factory. Please contact us directly for more information.

Onboard Systems is dedicated to supporting helicopter external load operators and we welcome any feedback and comments you may have. If you have any questions or require additional information, please feel free to contact us.

Best regards,



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Please review this Service Bulletin and determine if the equipment is still in your possession. If this equipment is no longer in your possession, please forward this information to the current owner or your customer.

Onboard Systems will stock the materials required to comply with this service bulletin and will offer a credit towards the purchase of a next generation swivel kit (part number 200-434-00 or 200-435-00) upon the return of an affected swivel kit part number listed above. The credit will be \$615 USD for part number 200-372-00 and \$640 USD for part numbers 200-373-00 or 200-402-00, valid throughout the compliance period. All parts are supplied FOB Onboard's factory. Please contact us directly for more information.

Onboard Systems is dedicated to supporting helicopter external load operators and we welcome any feedback and comments you may have. If you have any questions or require additional information, please feel free to contact us.

Best regards,

A handwritten signature in black ink, appearing to read "Mike Fox", is written over a horizontal line.

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SERVICE BULLETIN

Subject: Electric Swivels & Potential for Severe Long Line Twist

Helicopters Affected: Miscellaneous

Parts Affected: Electric Swivel P/Ns listed in Table 1.

Table 1 – Affected Part Numbers

P/N	Description
200-372-00	3,000-lb Electric Swivel Kit
200-373-00	6,000-lb Electric Swivel Kit
200-402-00	3-Channel Electric Swivel Kit
232-457-00	Electric Swivel Assembly, 2 Channel
232-457-30	Electric Swivel Assembly, 3 Channel

Compliance: Recommended on condition, or within 9 months of issue date of this Service Bulletin—whichever comes first.

Ownership: Please review this information and determine if the equipment is still in your possession. If the equipment is no longer in your possession, please forward this notice to the current owner, or to your customer, as applicable.

Background: Electric Swivels provide power to remote equipment and prevent excessive twist in the long line by swiveling. Electric Swivels are recommended when potential of load spin is present. See FAA [Safety Alert for Operators 13010](#).

Description of Incident: Onboard Systems has been notified of a failure of a synthetic long line while utilizing a P/N 232-457-00 Electric Swivel. Investigation indicated a contributing factor to the line failure as excessive twist. Severe twist in a loaded long line may lead to reduction of its breaking strength—partly by decreasing the effective number of load-bearing strands. Under-rotation of the 232-457-XX Electric Swivel likely resulted from an over-worn bearing race, possibly aggravated by lack of preventive maintenance.

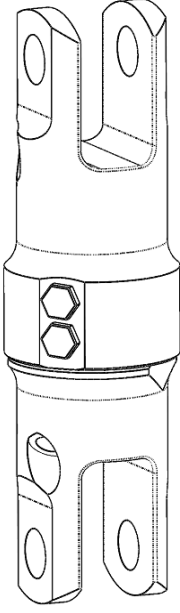
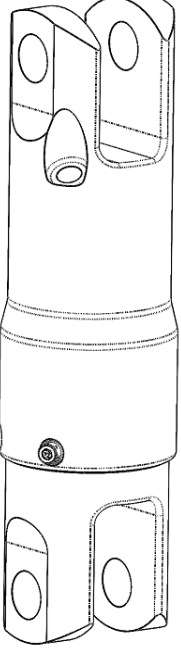
Response: This Service Bulletin outlines steps to assess, maintain and carefully monitor continued usage of 232-457-XX Electric Swivels for a limited period of time. Also, during the compliance period, users are recommended to upgrade to a next-generation electric swivel design which both reduces rotational friction and is less sensitive to ongoing maintenance.

Recommended Action: To comply with this bulletin, perform the following:

- Inventory Electric Swivels in use.
- Assess & monitor condition of 232-457-XX Electric Swivels.
- Inspect condition of long lines.
- Upgrade 232-457-XX Electric Swivels as soon as practical, or within the compliance period.

1) **Inventory Electric Swivels in use.** Perform a physical inventory of Electric Swivels in service in your fleet, recognizing what configurations are in service. If a data tag is illegible, the swivel can be identified using Table 2 and by referencing Owner's Manuals 120-205-00 and 120-225-00.

Table 2 – Electric Swivel Identification (harness not shown)

	Generation 1 Electric Swivel	Generation 2 Electric Swivel
Illustration		
Part Numbers	232-457-00, 232-457-30	210-305-30
Material	Stainless Steel	Aluminum
Weight	6.2 lbs [2.9 kg]	4.0 lbs [1.8 kg]
Harnesses	Stainless reinforced hoses	Rubber reinforced hoses

- 2) **Carefully assess & monitor condition of 232-457-XX Electric Swivels.** The bearing health may be assessed by grasping both ends of a loose swivel, applying a light load and rotating it through multiple revolutions. If anything other than smooth motion is felt (dents, roughness, or grittiness), the swivel should not be used. See also Owner's Manual 120-205-00, Table 3-1 'Daily Check'.

If the feel of the swivel is not smooth, disassemble per instructions in Owner's Manual 120-205-00. Clean bearing races and examine under magnification. If roughness, denting, or fretting is observed, discontinue use and retire the unit from service. No repair regimen is possible to recondition the integral bearing races. See Figure 1.

Figure 1 – Worn Bearing Race



Alternatively, the 232-457-XX Electric Swivels may be returned to Onboard Systems for inspection and ATP—which includes a torque measurement of rotation under load.



Before each use, manually pull on the Electric Swivel and rotate it 360°. If any roughness is felt (indicating worn bearing races & high rotational friction), the Electric Swivel should not be used.



Carefully monitor the reaction of the long line while transporting spinning loads. Observe that the long line itself is not accumulating twist continuously.

As good-condition 232-457-XX Electric Swivels continue to be used in service, Pilots and ground crew both should monitor the swiveling functionality very carefully. When rotating loads are present, visually observe that the long line is not continuously accumulating twist.



Some amount of twist in synthetic long lines under load is normal—even while using an Electric Swivel. Synthetic ropes by nature have low resistance to rotation. In action, the Electric Swivel might rotate intermittently as the break-away torque of the Electric Swivel is reached.

- 3) **Inspect condition of long lines.** If it is believed that a long line was subjected to excessive twist its service history, carefully inspect it according to the recommendations of the manufacturer before further use.
- 4) **Upgrade Electric Swivel as soon as practical—or within the compliance period.** Onboard Systems recommends all users retire 232-457-XX Electric Swivels and upgrade to the next-generation design, which offers lower rotational torque and less sensitivity to maintenance.

Acquire materials listed in Table 3 below. Remove & replace the Electric Swivel following the installation instructions in section 3.0 of Owner's Manual 120-225-00.

Manpower: Approximately 2 man-hours will be required.



Service Bulletin

Document: 159-047-00

Revision: 0 Date: January 4, 2021

Required Materials: Depending on the specific remote equipment in use, one of the kits in Table 3 will be required. Both kits utilize the next-generation P/N 210-305-30 Electric Swivel.

Table 3 - Materials

Part No.	Description	Quantity
200-434-00	3,300-lb Electric Swivel Kit	1
200-435-00	6,000-lb Electric Swivel Kit	1

Publications Affected: The following publications can be downloaded from the company web site by visiting the following link:

<http://www.onboardsystems.com/document>

Owner's Manual: 120-205-00

Owner's Manual: 120-225-00

Alert Service Letter: 159-033-00

Contact Information: Technical support question regarding this bulletin can be addressed through the following contact methods:

Phone: 360-546-3072

Fax: 360-546-3073

E-mail: techhelp@onboardsystems.com

Web: <https://www.onboardsystems.com/support/technical>

Disposition of Parts Removed: Return retired 232-457-XX Electric Swivels to Onboard Systems for disposal.

Material/Part availability: Contact Onboard Systems for pricing & availability of replacement parts. A core credit may be available during the compliance period.