

PARTS & SERVICE NEWS

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Page 1 of 6

- SUBJECT:** DUAL WINDSHIELD WIPER SYSTEMS
- PURPOSE:** To inform the field of two kits for improving reliability of dual windshield wiper systems.
- APPLICATION:** Komatsu Electric Drive Dump Trucks:
 930E: 32604-32816, A30019, A30026 & Up;
 930E-2: A30012, A30098, A30100, A30121 & Up;
 830E: 32015 thru 32456, A30544 & Up;
 730E: 32530-32845, A30079 & Up;
equipped with dual windshield wiper systems
- Komatsu Mechanical Drive Dump Trucks:
 530M: A30001 thru A30038, 32628;
 HD1500-5: A30039 & Up
equipped with dual windshield wiper systems
- FAILURE CODE:** DY27MS
- DESCRIPTION:** Wiper Linkage Supplemental Mounting Kit (XK0185)
 Drill Guide Template Kit (XK0187)

Some trucks in the field, equipped with dual windshield wipers, may experience reoccurring failures with wiper linkage and other related components. The wiper systems used on these arrangements were assembled using "off the shelf parts" that were not engineered specifically for this installation. Because of this, each wiper arm pillow block (3, Figure 5) contains two, unused mounting holes. In response to the few failures that have occurred, it has been recommended that the extra holes be used to provide additional support for the wiper system.

The main indication for the necessity of this kit is a constant need to retighten the 20 mm nuts (3, Figure 4) that secure the wiper arm shafts to the cab. The 20 mm mounting nuts should be tightened finger-tight, and then torqued to **16 (15 in. lbs. (18-20 Nm)). Do not overtighten. The threads on the shafts are easily stripped if improperly torqued.** If proper tightening does not prevent the nuts from loosening, install wiper linkage supplemental mounting kit (XK0185). Refer to Table 1 for a complete listing of the kit contents. Drill guide template kit (XK0187) will also be needed to provide the proper drilling locations. One set of templates can be used for all applicable models in the fleet, and therefore, the templates are sold separately. Refer to Table 2. Installation instructions are outlined on Page 3.

CAUTION

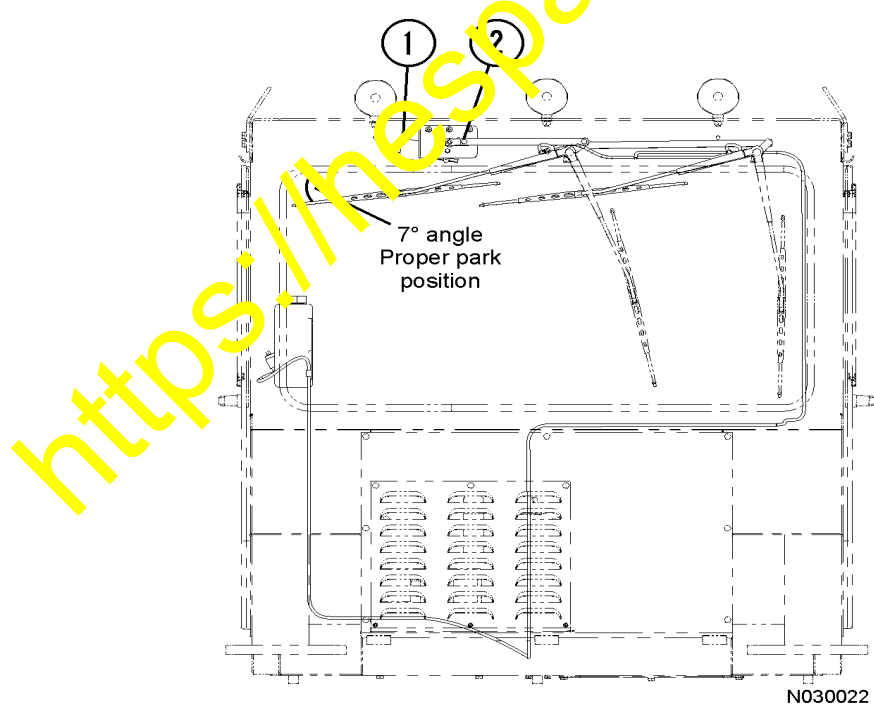
Other factors that may diminish overall wiper system reliability include the following:

- *Improper torquing of assembly hardware during installation*
- *Operating the windshield wipers in dry conditions*
- *Manually parking wipers in the wrong position (Refer to Figure 1)*
- *Improper maintenance procedures*

Refer to the appropriate service manual for proper operating and maintenance guidelines.

TABLE 1. Wiper Linkage Supplemental Mounting Kit (XK0185)		
Part Number	Description	Quantity
EK4231	Block, Spacer	2
MM0459	Flatwasher	8
MM0040	Capscrew	4
MM0469	Lockwasher	4
MM0176	Nut	4

TABLE 2. Drill Guide Template Kit (XK0187)		
Part Number	Description	Quantity
EK4232	Block, L.H. Template	1
EK4233	Block, R.H. Template	1

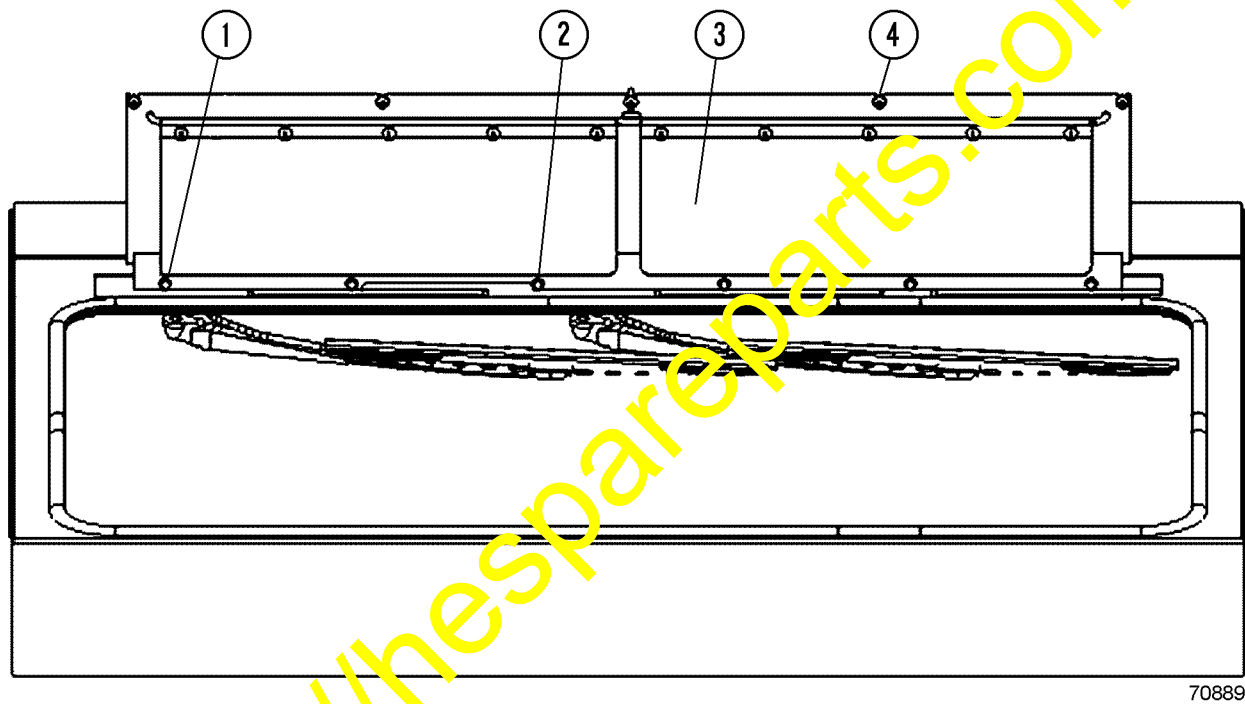


1. Wiper Motor 2. Linkage Retainer

FIGURE 1. PROPER PARK POSITION

KIT INSTALLATION PROCEDURE

1. Cover the instrument panel and the entire top of the dash panel with a drop cloth to prevent metal shavings from entering vents or other crevices and compartments. Cover carpeted posts with paper to avoid shavings from getting caught in carpet fibers.



1. Capscrew

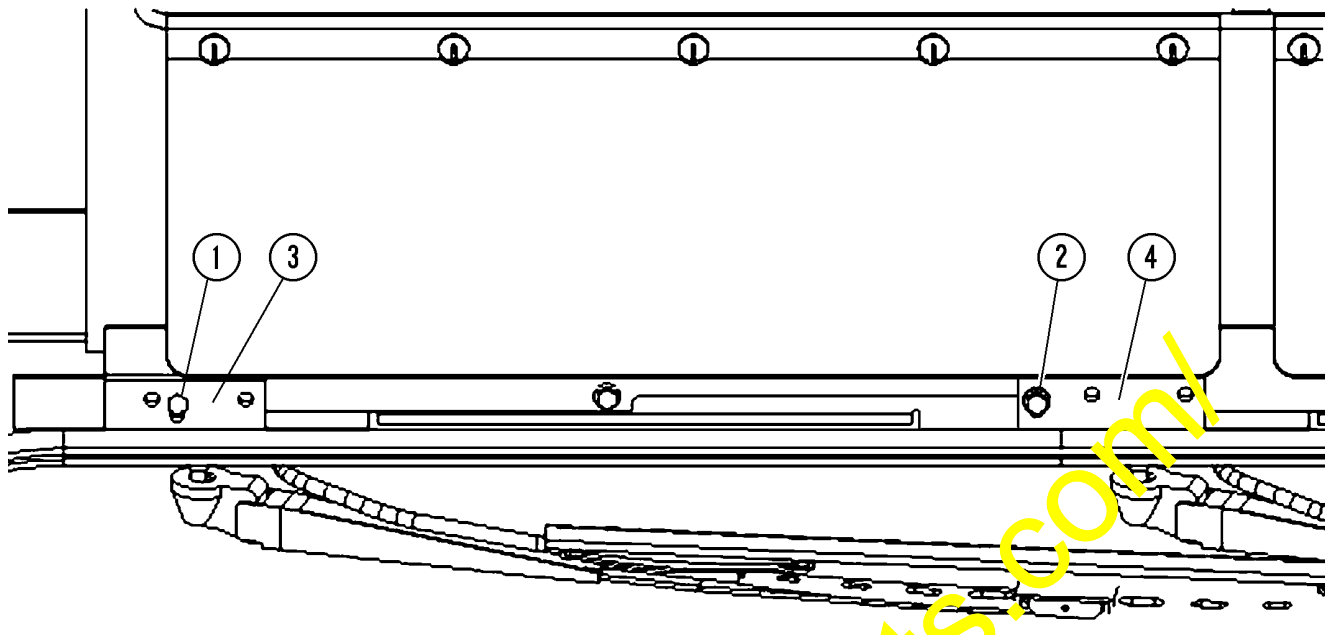
3. Visor Assembly

2. Capscrew

4. Mounting Screws

FIGURE 2. VISOR ASSEMBLY/WIPER ACCESS COVER

2. Locate capscrews (1 & 2, Figure 2) at the left of each wiper arm mounting shaft. Remove the two capscrews and washers.
3. Install templates (3 & 4, Figure 3), as shown in the illustration, using the capscrews removed in the previous step. The templates should be positioned flush against the sheet metal of the cab. The mounting hole for each template is slotted, allowing for the proper positioning. Tighten the mounting capscrews after positioning the templates.

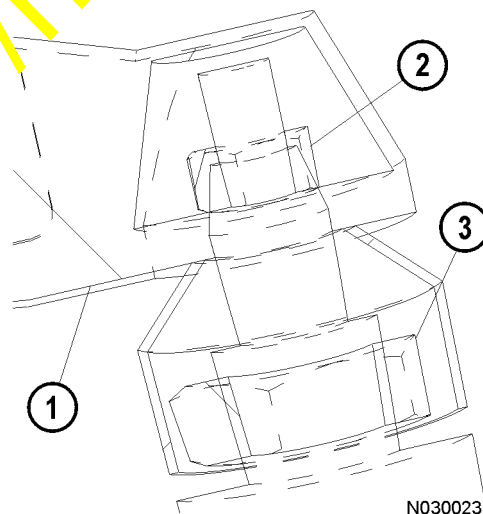


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- 1. Capscrew
- 2. Capscrew
- 3. L.H. Template (EK4232)
- 4. R.H. Template (EK4233)

FIGURE 3. TEMPLATE INSTALLATION

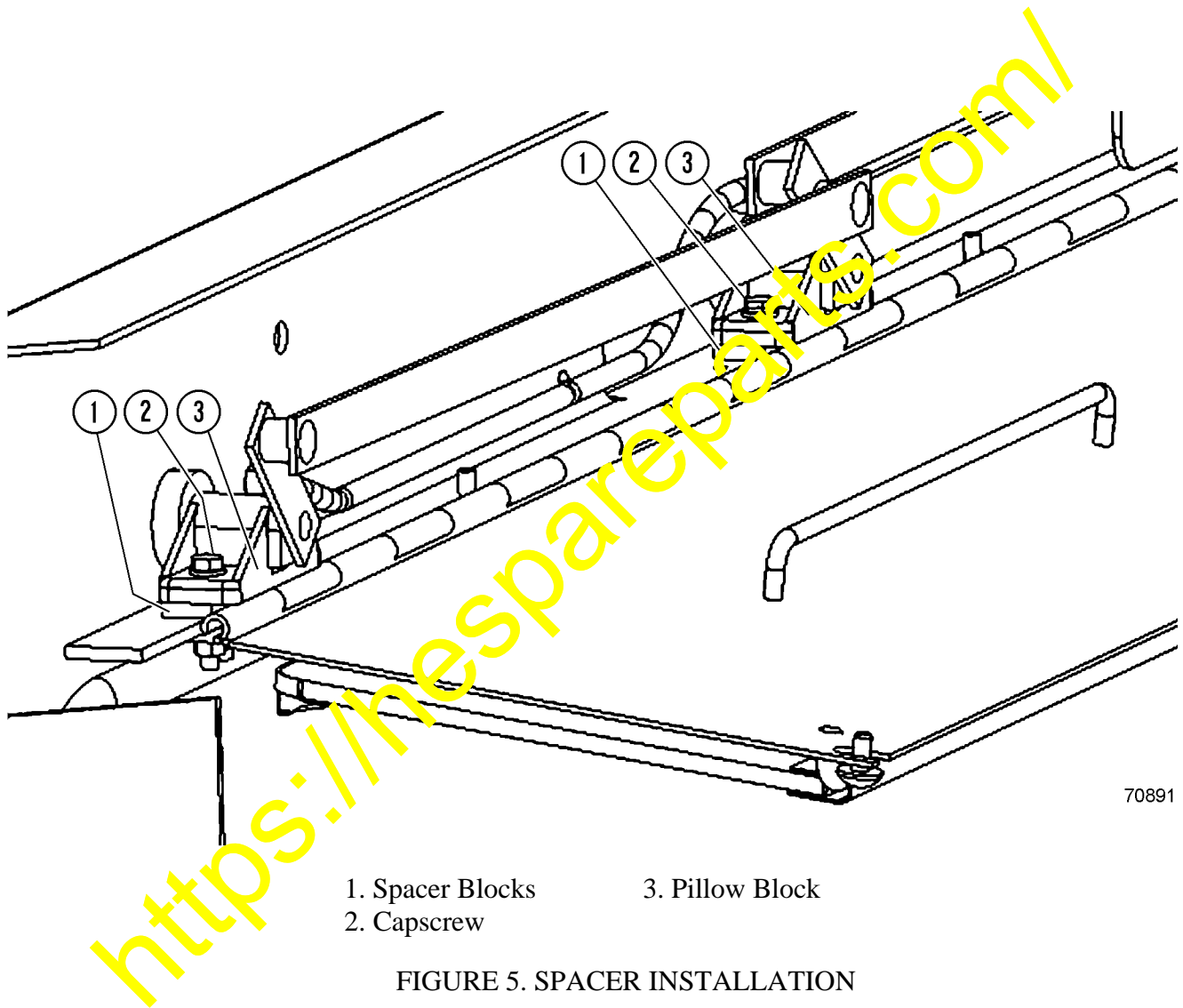
- 4. Using the locator holes in the templates, carefully drill four, 8 mm (5/16 in.) holes through the hinge of the visor assembly and the sheet metal that it is mounted to. ***It is important to only drill far enough to complete the holes through the mounting sheet metal. Continuing to drill past this area may cause damage to wiring or other wiper system components.***
- 5. Remove the two capscrews, and the templates. Keep the templates on hand for other units.



- 1. Wiper Arm
- 2. Nut
- 3. Nut (20 mm)

FIGURE 4. WIPER ARM MOUNT

6. Disconnect the washer hose from each wiper arm (1, Figure 4). Remove both wiper arm mounting nuts (2), and remove both wiper arms.
7. Loosen nut (3).
8. Remove five screws (4, Figure 2) and swing visor assembly (3) downward to allow access to the wiper linkage.



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9. Install a spacer block (1, Figure 5) below each pillow block (3). Refer to Figure 6 for proper spacer block orientation.

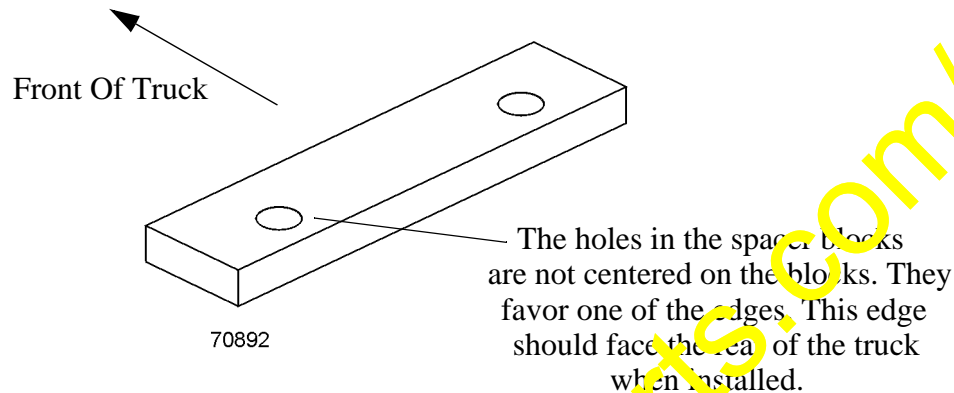


FIGURE 6. SPACER BLOCK ORIENTATION

10. Secure the pillow blocks and spacer blocks using the new hardware provided in the kit. Apply Loctite® to the capscrews and torque the capscrews to **9 ft.lbs. (12 Nm)**.
11. Tighten nut (3, Figure 4) finger-tight on each wiper shaft. Torque the nuts to **160-177 in. lbs. (18-20 Nm)**. **Do not over-tighten. The threads on the shafts are easily stripped when improperly tightened.**
12. Install wiper arm (1, Figure 4) and nut (2) on each wiper shaft. The wiper arms must form a 7° angle with the top surface of the windshield when the motor is in the "parked" position. Refer to Figure 1. Torque the wiper arm nuts to **142 -177 in. lbs. (16-20 Nm)**.

NOTE: If it was necessary to replace the linkage or other system components during this procedure, it may be necessary to reset the motor to the "parked" position. Disconnect linkage retainer (2, Figure 1) to isolate wiper motor (1). Turn "ON" the wiper motor and turn it "OFF" again. This will park the motor. Connect the linkage and install the wiper arms.

13. Place visor assembly (3, Figure 2) into position and install five screws (4).

NOTE: Do Not install capscrews (1 & 2, Figure 2). These capscrews are no longer necessary.