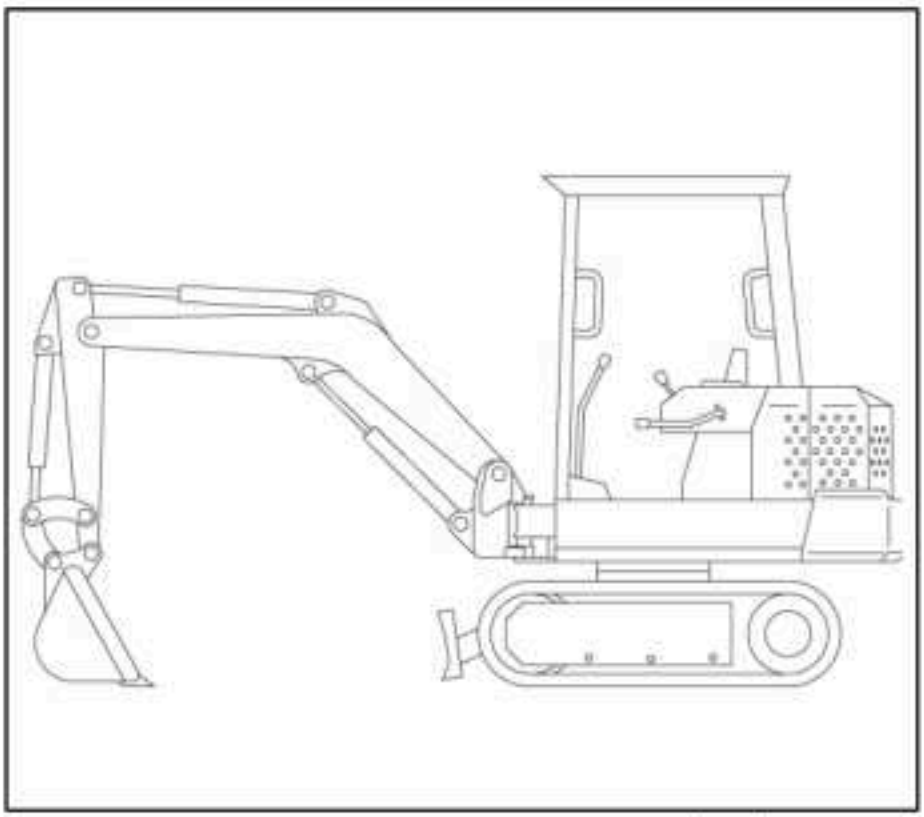
X 231

Excavator

Service Manual

(S/N 508912001 & Above)



MELROE
INGERSOLL-RAND

6722178(3–92)

Printed in U.S.A.

bobcat

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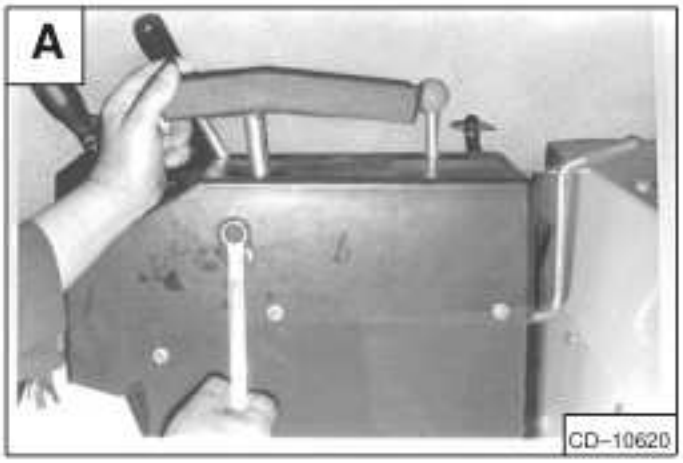
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RIGHT CONSOLE COVER

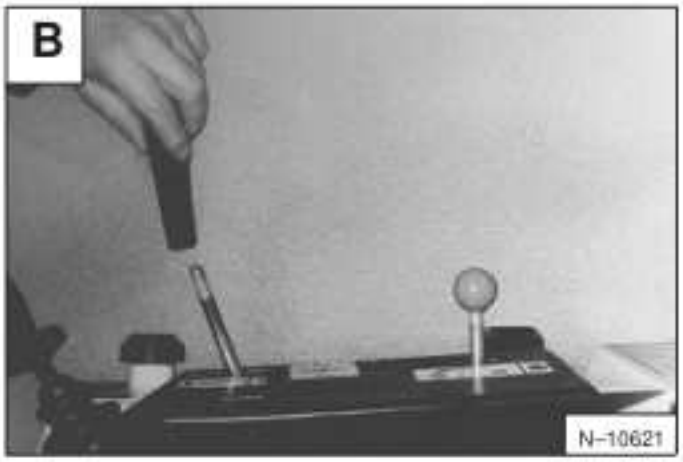
Removal and Installation

Loosen the two bolts to remove the arm rest **[A]**.



Remove the blade knob and throttle knob **[B]**.

Remove the mounting screws from the console cover.



Remove the instrument panel mounting screws **[C]**.

Remove the instrument panel.



Remove the wire harness from the instrument panel socket **[D]**.



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CENTER FLOOR PANEL (Cont'd)

Removal and Installation (Cont'd)

Remove the screws from the foot pedal rubber boot **[A]**.



Remove the rubber boot from the foot pedal **[B]**.

Remove the center floor panel.



SWING MOTOR COVER

Removal and Installation

Remove the bolts from the swing motor cover **[C]**.

Remove the swing motor cover.

Installation: Tighten the bolts to 20–25 ft.–lbs. (27–34 Nm) torque.



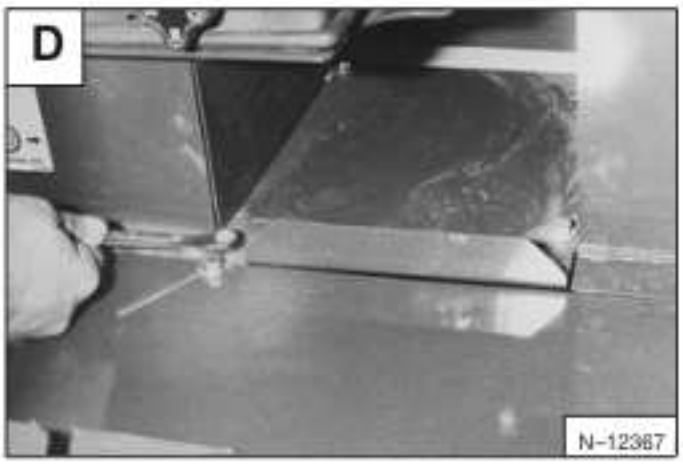
REAR FLOOR PANEL

Removal and Installation

Remove the bolts from the rear floor panel **[D]**.

Remove the rear floor panel.

Installation: Tighten the bolts to 20–25 ft.–lbs. (27–34 Nm) torque.



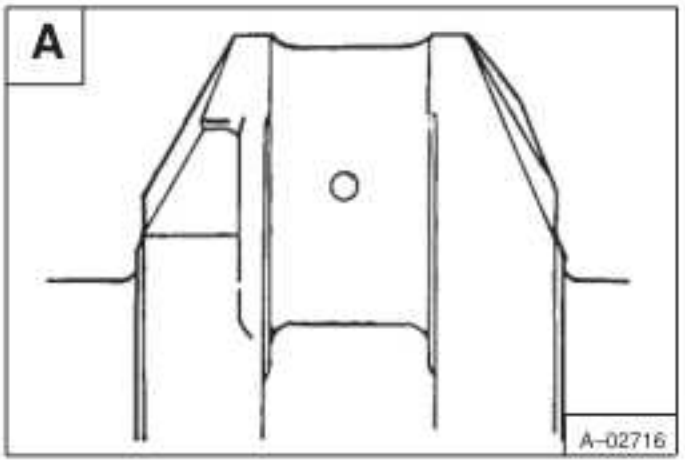
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Servicing the Crankshaft (Cont'd)

Check the connecting rod journals **[A]**.

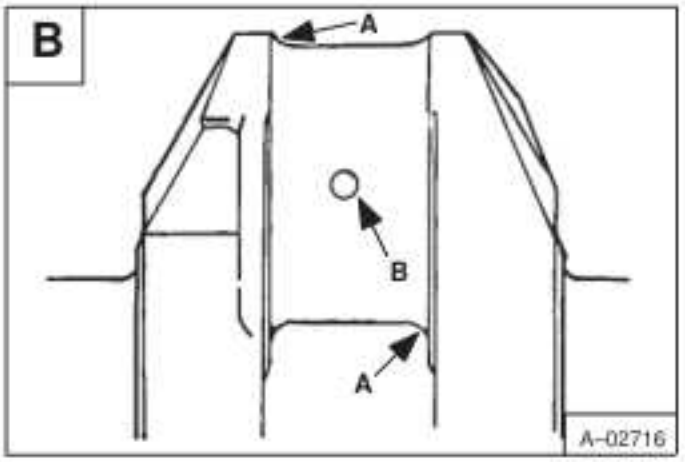
The specifications 1.7307–1.7313 inches (43,959–43,975 mm). The wear limit is 0.0079 inch (0,2 mm).



If the connecting rod journals are not within specifications grind the journals as follows **[B]**:

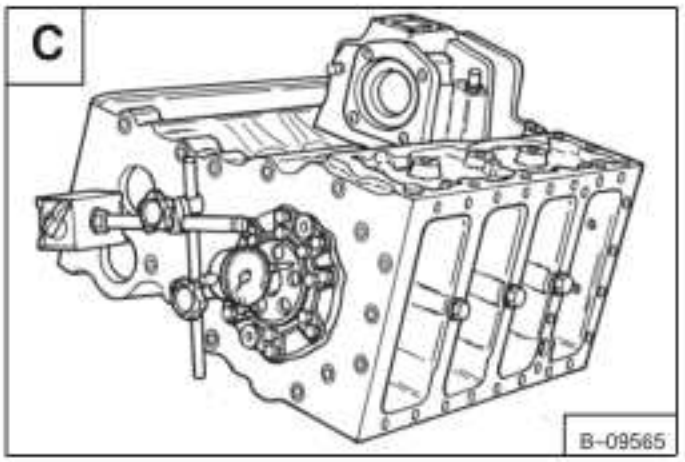
a. Crankshaft corner radius must be 0.1378 ± 0.0079 inch (3,5R ± 0,2 mm) R.

b. The oil hole must be chamfered to 0.0394–0.0591 inch R (1–1,5 mm) R.



Install the crankshaft and check the endplay **[C]**.

Normal end play is 0.0059–0.0122 inch (0,15–0,31 mm). Replace the thrust bearings on the main bearing if end play exceeds 0.020 inch (0,5 mm).

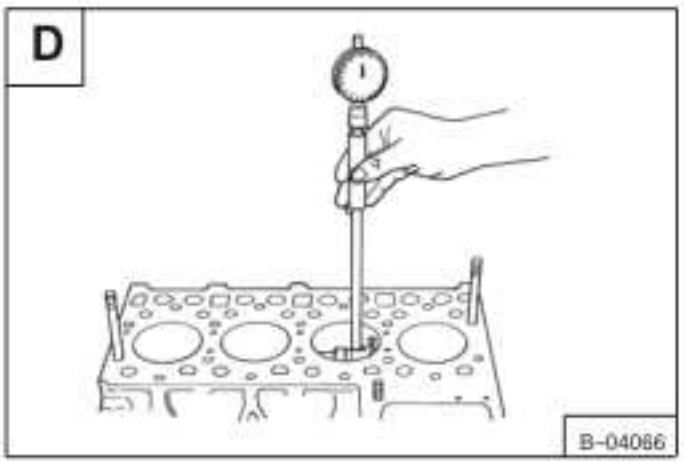


Servicing the Cylinder Liners

Check the inside diameter of the cylinder liner **[D]**.

The tools listed will be used for the following procedure:

MEL1060–Ridge Reamer
MEL1180–Dry Liner Puller



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HYDRAULIC FLOW CHART

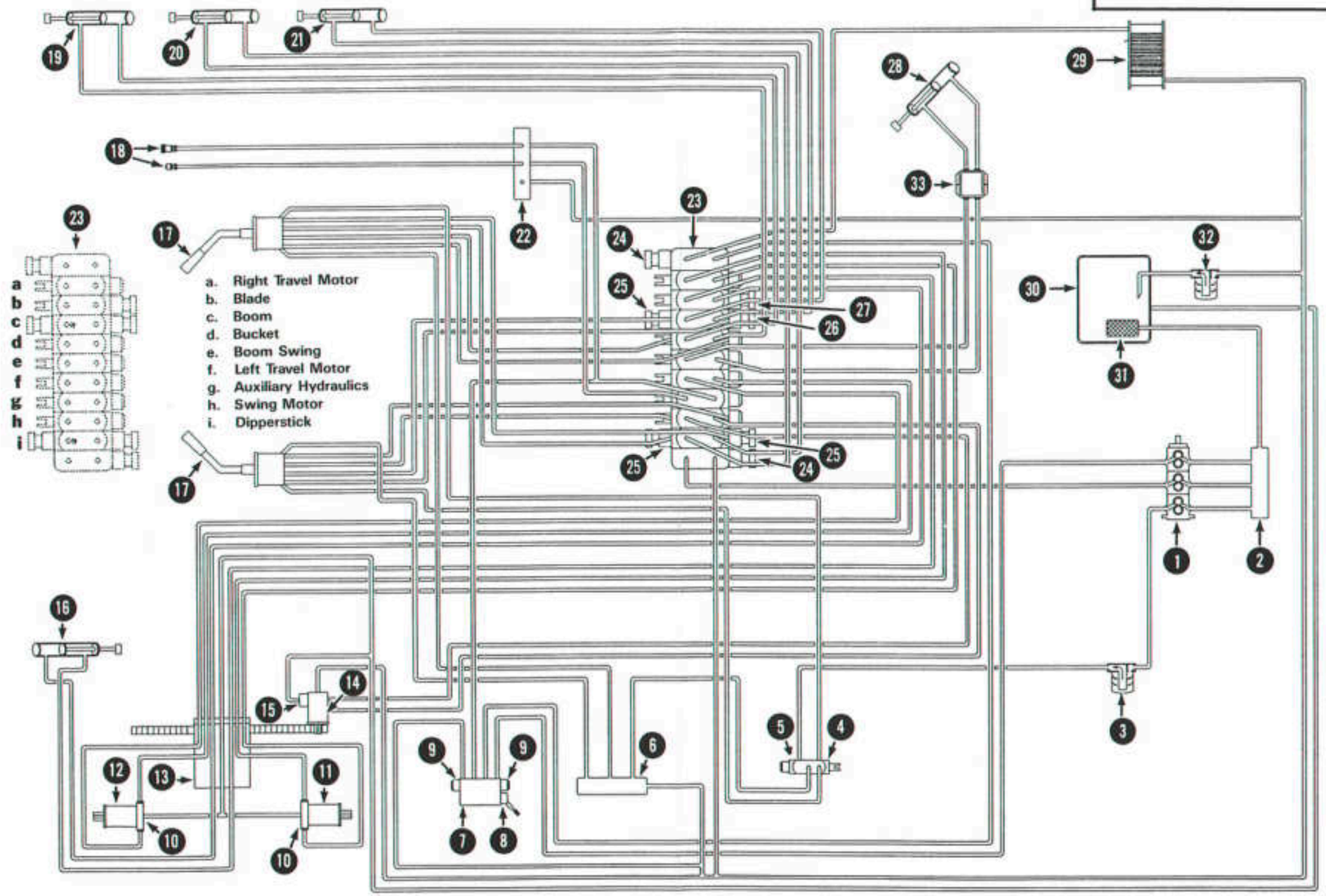
For Model

231 EXCAVATOR (STANDARD)

Chart #6720426 (Printed July 1991)

NOTE

Chart shows oil flow in Forward Drive Position and with Hydraulic Cylinders Partially Extended. For Hydraulic/ Hydrostatic System Operation, refer to Sheet 2 of this publication.



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