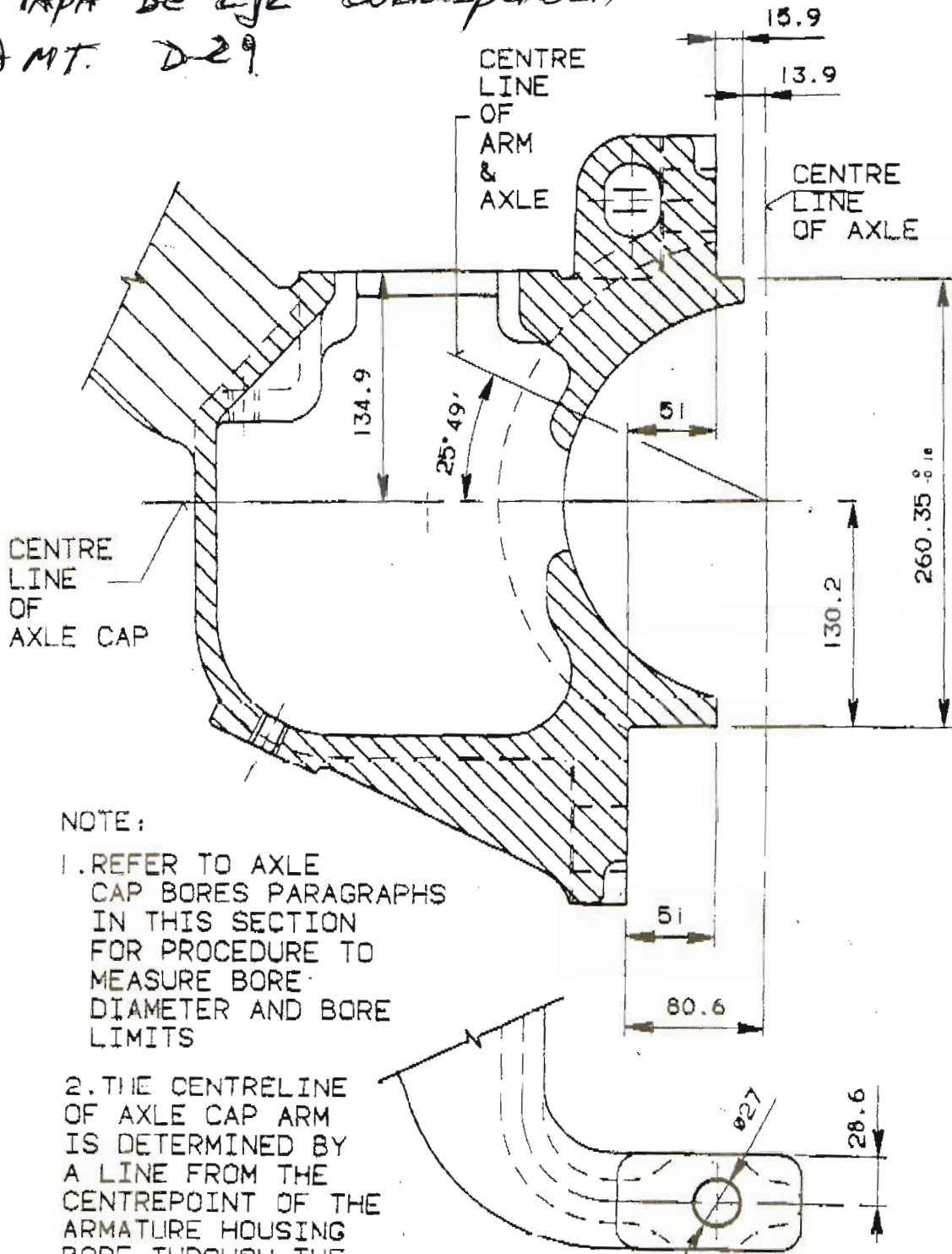


D-29

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Section 3 - Stator Inspection & Recoditioning-Mechanical

TAPA DE EJE CORRESPONDEN LAS MEDIDAS  
A MT. D-29



NOTE:

1. REFER TO AXLE CAP BORES PARAGRAPHS IN THIS SECTION FOR PROCEDURE TO MEASURE BORE DIAMETER AND BORE LIMITS

2. THE CENTRELINE OF AXLE CAP ARM IS DETERMINED BY A LINE FROM THE CENTREPOINT OF THE ARMATURE HOUSING BORE THROUGH THE CENTERPOINT OF THE AXLE BORE

(MANUAL-379)

TAPA

Fig. 3 - Pinion End Axle Cap

2-4  
**C.M.L 3954 - D43 Traction Motor Overhaul**

### AXLE CAP MOUNTING TO FRAME

The two axle caps are machined and line bored when mounted on the traction motor with a 0.46mm (.018") shim inserted between the caps and the motor frame. Line boring of the caps is necessary to achieve the accuracy of bearing fit required.

When the traction motor is mounted in a truck, the 0.46 mm (.018") shims are removed and 0.25mm (.010") shims are used, giving a 0.20 mm (.008") clamp fit or squeeze to the axle bearing shell.

The caps are not interchangeable with each other on a given motor or with caps of the other motors. To ensure the caps are properly matched, the caps are stamped with a serial number matching the motor frame. During assembly, the numbers on the support bearing caps should be checked to ensure the cap matches the number stamped on the motor frame.

**NOTE:** The lockwasher used with axle cap bolt has been replaced by hardened flat steel washer 8495681 on current model traction motors. The flat washer provides a larger and smoother seating area which enables the bolt to develop a higher clamp load at a given torque.

Axle caps that have been removed should be checked as follows:

1. Thoroughly clean with a suitable solvent and dry.
2. Paint outside of axle cap with chalk dust mixed with water and allow to dry.
3. Fill axle cap with kerosine and allow to stand for one hour. Check outside for leaks. If leakage occurs at oil drain hole, repair threads and replace drain plug if required.

### GEAR CASE MOUNTING

Measure the distance from the centerline of the axle bore to the centerline of the gear case 27.0mm (1-1/16") diameter mounting hole in the axle cap arm, Fig. 5. This dimension shall be within 435.0 mm  $\pm$ 1.6 (17-1/8"  $\pm$ 1/16). Wall thickness of axle cap arm from center of 27.0 mm (1-1/16") diameter gear case mounting hole and inner edge of arm should not be more than 32mm (1-1/4").

### AXLE CAP TO FRAME SPLINE CONNECTION

The axle caps should be assembled to the traction motor frame with the 0.46 mm (.018") shims between the caps and motor frames.

#### CAUTION:

The 0.46 mm shim is placed between the axle cap and the motor frame before machining operation.

*DIAMETRO DEL EJE CORRESPONDE  
A. M.T. D-29*

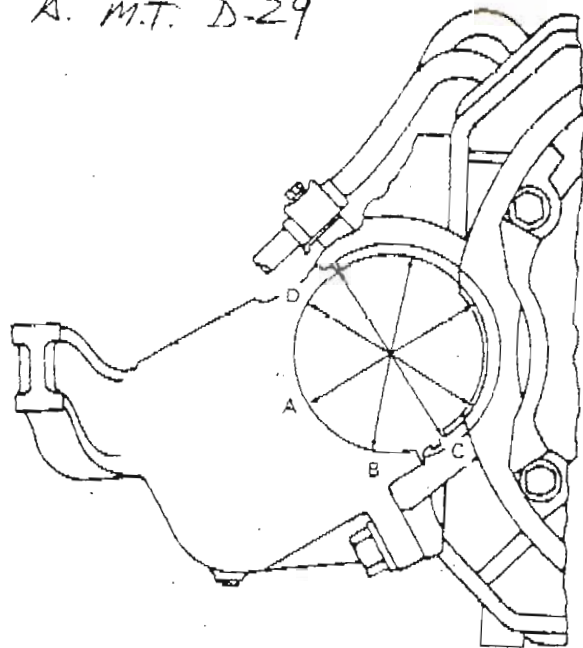
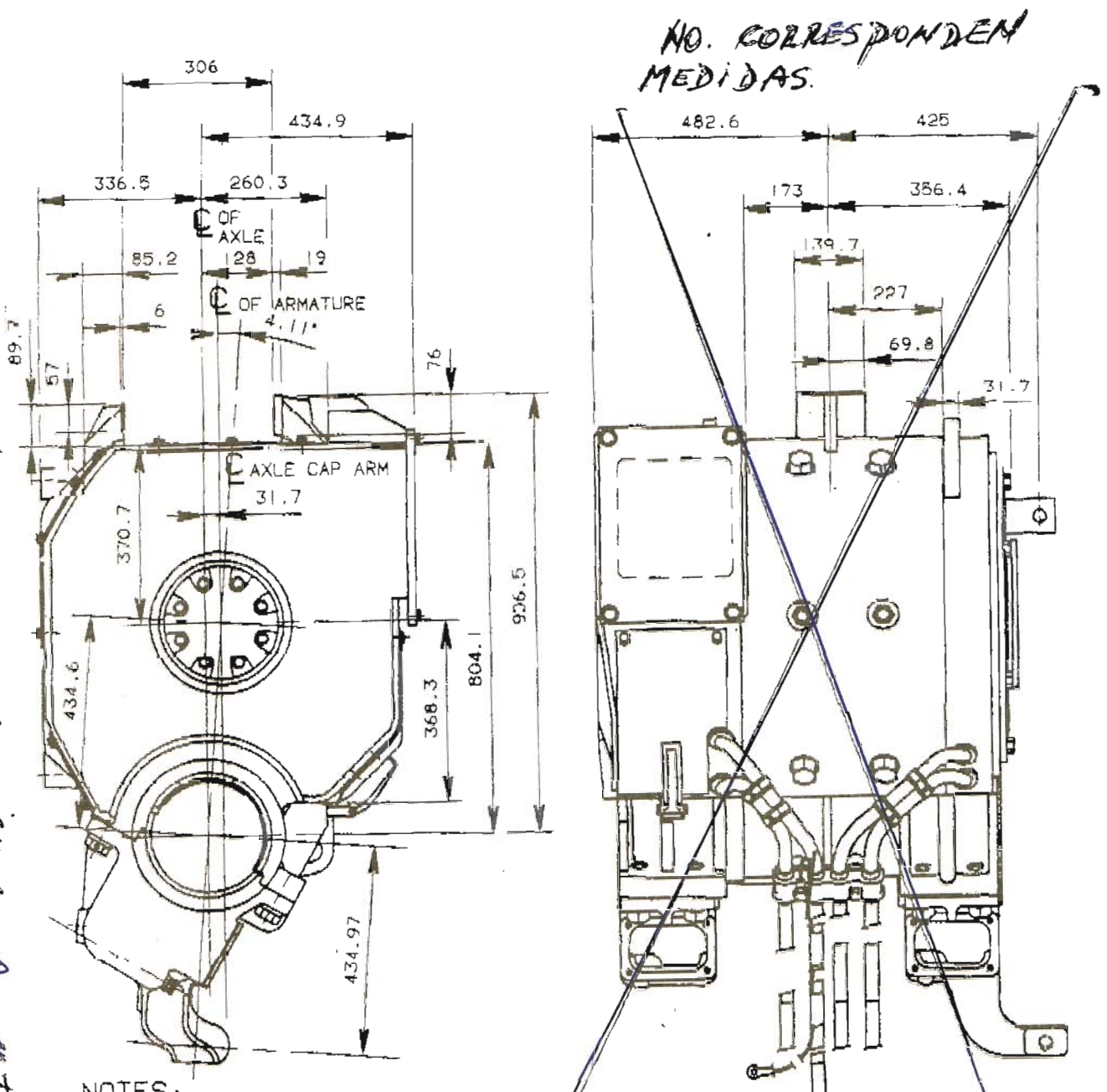


Fig. 4 - Axle Bore Measurement

3-4

Section 3 - Stator Inspection & Recoditioning-Mechanical

FIG. 5 EN ESTA POSICION ES IGUAL A MT. D-29



NOTES:

- 1) 434.97 BETWEEN AXLE BORE CENTRELINE AND ARMATURE BORE CENTRELINE. REFER TO AXLE BORE SECTION OF TEXT FOR MIN. AND MAX. DIMENSIONS.
- 2) THE CENTRELINE OF AXLE CAP ARM IS DETERMINED BY A LINE FROM CENTREPOINT OF THE ARMATURE BORE THROUGH THE CENTREPOINT OF THE AXLE BORE.

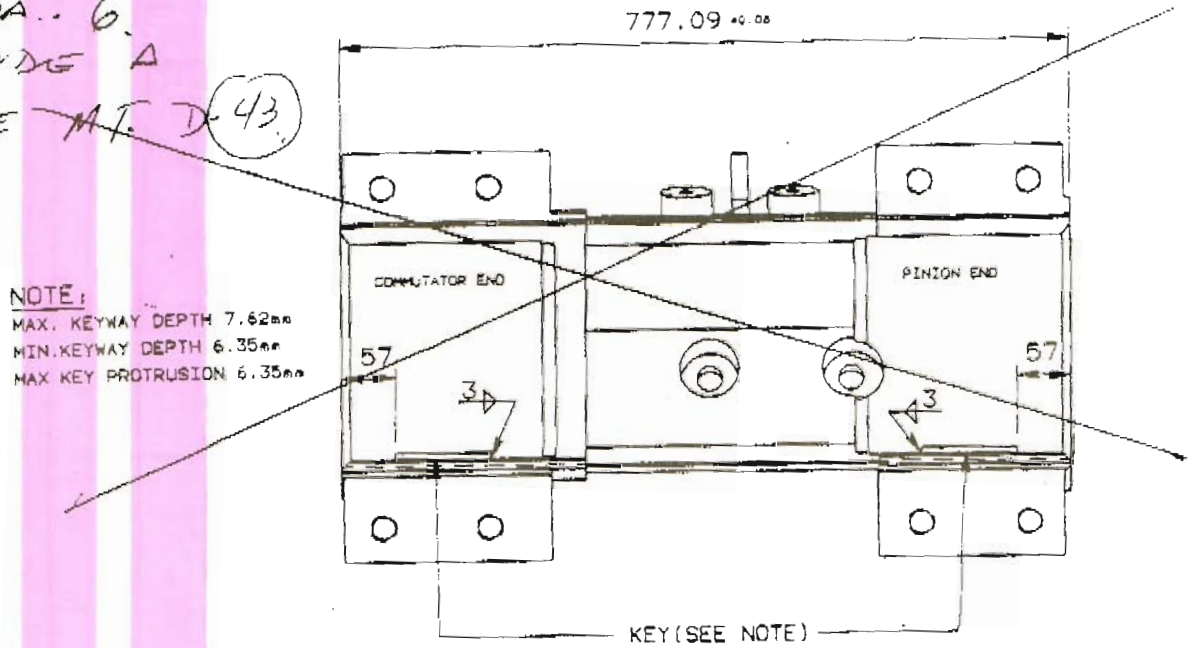
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Fig. 5 - Traction Motor Outline

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## C.M.I. 3954 - D43 Traction Motor Overhaul

FIGURA.. 6.  
CORRESPONDE A  
MEDIDA DE ~~M.T. D~~ (43)



NOTE:  
MAX. KEYWAY DEPTH 7.62mm  
MIN. KEYWAY DEPTH 6.35mm  
MAX KEY PROTRUSION 6.35mm

MANUAL-404

Fig. 6 - Axle Side Motor Frame

Tighten securely in place and check the spline fit on each side with a feeler gauge. This measurement is taken between the support cap and its junction with the traction motor frame. Total the top and bottom readings taken on each side of individual caps. This measured total clearance should not exceed 0.38 mm (.015") or the interference should not exceed 0.18 mm (.007").

The interference fit, if present, can be determined by measuring individual components with micrometers and determining the dimensional difference. The tolerance of the frame spline is 260.17mm to 260.53 mm (10.243" to 10.257"), Fig. 3. The tolerance of the support cap spline is 260.15 mm to 260.35mm (10.242" to 10.250").

#### AXLE BORES

1. With the 0.46 mm (.018") shim in place between the axle cap and the motor frame, and the support bearing caps drawn up tight, measure the axle bore diameter in four places as shown in Fig. 4.

Ø TUNEL D-24

Ensure frame is at room temperature.

The average of the four readings must be within 234.92 mm and 235.13 mm (9.249" to 9.257"), providing "A" diameter in Fig. 4, is not less than 234.82 mm (9.245").

2. Axle bore must be parallel to armature bore within 0.31 mm (.012").
3. Axle bore centerline on pinion end to be parallel and concentric with axle bore centerline on commutator end within 0.13 mm, (.005").
4. Distance between axle bore centerline and armature bore centerline at the pinion end shall be 434.34 mm (17.100") minimum and 434.75 mm (17.116") maximum, Fig. 5. When pinion end is at minimum of 434.34mm (17.100"), it is permissible for distance between centerlines at the commutator end to be 434.14 mm (17.092").