MEMBERS 77-55-56  GENERAL DESCRIPTION

Model 77 is a thirty-inch tube direct view 16 inch metal lineoscope receiver. Model 55-56 is a twenty-nine-inch tube direct view 16 inch metal lineoscope receiver.

In all three models the receiver is operated by the use of seven front panel controls. Features include four stages of video and audio amplification, and a fully automatic Frequency Control system that stabilizes horizontal hold. Stagger tuned circuits provide full frequency response for maximum definition in four minutes. Crystal video detector employs r-f and i-f stages. A receiver control circuit gives equalized reception on all available channels without changing brightness or contrast controls, and eliminates distortion of pick-up and distribution circuits. A completely shielded high voltage supply delivers 13v. For maximum picture brilliance.

FM sound system utilizes three i-f stages with limiter and Foster-Sayue discriminator. Two stages audio amplifier with tone control and inverse feedback is incorporated in all three models. Model 77 utilizes an 8-inch permanent magnet speaker. Model 55-56 utilizes an 8-inch extended range permanent magnet speaker.

Metal lineoscope envelopes are carefully insulated and is integrally mounted in cabinet with picture surface sealed in dust-tight chamber by a polyethylene gasket to prevent ashmilation of dust particles and mist behind heavy lineoscope mesh.

Mechanical cabinet consists of fine imported and domestic woods and carefully finished.

MECHANICAL SPECIFICATIONS

Dimensions (inches) Width Height Depth
Cabinet (outside) 28 31 29
Cabinet (inside) 24 33 1/4 12
Chassis (outside) 18 12 1/2 21

Picture size: -- 13-3/4 x 10-1/4 (126 square inches)

ELECTRICAL SPECIFICATIONS

Power Supply Rating 115 volts 60 cycles 60 watts

R-F FREQUENCY RANGES

Channel 1 2 3 4 5 6 7 8 9 10 11 12 13

OPERATING CONTROLS (FRONT PANEL)

Channel Selector Fine Tuning
Sound Volume and on-off Switch
Zone
Frame Lock (vertical hold)
Brightness
Picture Contrast (Control)
Horizontal Centering
Vertical Centering
Width (in high voltage shield)
Height
Horizontally Linear (Top of chassis)
Vertical Linearity
Horizontal Drive
Horizontal Oscillator Phase

POWER SUPPLY

Input voltage 115 volts
60 cycles

R-F AMPLIFIER

Model 77 Model 55-56
R-F Amplifier 6B6 6B6
R-F Oscillator 6B6 6B6

VERTICAL SCANNING CIRCUIT

Model 77 Model 55-56
Vertical Amplifier 6B6 6B6
Vertical Driver 6B6 6B6

HORIZONTAL OSCILLATOR

Horizontal Centering
Vertical Centering
Width (in high voltage shield)
Height
Horizontally Linear (Top of chassis)
Vertical Linearity
Horizontal Drive
Horizontal Oscillator Phase

ACCOMPANYING CIRCUITS

Model 77 Model 55-56
A.C.-D.C. Det. and D.C. Restorer 6B6 6B6
A.C.-D.C. Diode and Amplifier 6B6 6B6
Vertical Amplifier 6B6 6B6
A.C. Step Amplifier 6B6 6B6
Vertical Oscillator 6B6 6B6
A.C.-D.C. Det. and D.C. Restorer 6B6 6B6
A.C.-D.C. Diode and Amplifier 6B6 6B6
Vertical Amplifier 6B6 6B6
A.C. Step Amplifier 6B6 6B6
Vertical Oscillator 6B6 6B6

ACCOMPANYING CIRCUITS (Back including B-F and I-F adjustments)

Model 77 Model 55-56
Horizontally Centering
Vertical Centering
Width (in high voltage shield)
Height
Horizontally Linear (Top of chassis)
Vertical Linearity
Horizontal Drive
Horizontal Oscillator Phase

NOTE: All adjustments should be made with the receiver tuned to a good picture. All adjustments should be made with a scope and a driven signal. All adjustments should be made with the picture on a reproducible color chart.

TO USE A RECORD PLAYER WITH THE RECEIVER

If you have a separate record player (either 36 rpm, 45 rpm, or 78 rpm) which is equipped with a standard single groove phonograph, it can be used with your television receiver.

1. Turn the phonograph switch on the rear of the chassis from the "REC" to the "FM/TV" position.
2. Plug the line cord of your record player into an electrical wall receptacle, and place the record in the turntable (marked "Phono") located directly below the phonograph switch.
3. Turn the record player on and adjust the volume control to the desired level.
4. Turn the volume control on the receiver to the desired level.

If you have a separate record player (either 36 rpm, 45 rpm, or 78 rpm) which is equipped with a standard single groove phonograph, it can be used with your television receiver.

1. Turn the phonograph switch on the rear of the chassis from the "REC" to the "FM/TV" position.
2. Plug the line cord of your record player into an electrical wall receptacle, and place the record in the turntable (marked "Phono") located directly below the phonograph switch.
3. Turn the record player on and adjust the volume control to the desired level.
4. Turn the volume control on the receiver to the desired level.
INSTALLATION INSTRUCTIONS

A - LOCATE RECEIVER

In accomplishing a location for placing receiver, the following factors should be taken into consideration:

1. Greatest viewing comfort
2. Accessibility for service
3. Ease of control caused by viewing availability of A.C. outlets
4. Overall convenience

A minimum of direct light should fall on the viewing area.

The receiver should be entirely from wall to provide adequate ventilation. Antenna lead-in wire should be long enough to permit movement of receiver for cleaning purposes.

B - ANTENNA

The installation of a television antenna is of the utmost importance. The finest instrument is not capable of improving on the signal presented by its antenna. Your customer's satisfaction will depend entirely on the skill with which you erect and adjust the antenna installation.

It is a good practice in many cases to make a pre-installation survey of the reception conditions in a specific area, and to determine what special equipment may be necessary. This will avoid a great deal of added expense and trouble at the time the actual installation is made.

Friedlaender Models 77, 55 & 56 television receivers are designed to receive all channels and operate from a 300 ohm balanced system. Under special conditions it may be necessary to install two or more antennas in order to obtain good reception from non-centralized located transmitters.

Depending on location, the following types are recommended:

1. Grounded antenna

2. Adjacent VHF table antenna

3. The "Superantenna," as manufactured by Televox, Inc., Asbury Park, N.J., an improved antenna designed to operate from window or in metropolitan areas of high signal strength.

C - INTERFERENCE REMEDIES FOR INTER-CHANNEL AND FM INTERFERENCE

Four methods are available for the reduction of interchannel interference and FM program interference. Build-in interference and FM program match, followed by either or both FM program match and FM program match. Use as many of these methods as necessary to eliminate the interference.

1. Interference is encountered between stations operating on channels 1 and 7 and stations operating on channels 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10.

2. FM interferences are encountered between stations operating on channels 5 and 7 and stations operating on channels 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 5 and 7. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 5 and 7.

3. FM interferences are encountered between stations operating on channels 1 and 7 and stations operating on channels 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10.

4. FM interferences are encountered between stations operating on channels 1 and 7 and stations operating on channels 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10. The interference is caused by the high frequency of the receiver's sensitivity in the carrier band, and the receiver is being used on channels 1, 7 and 10.

The trap in the front end of the input is designed so that it will provide a 3.5 megahertz amplifier, with a gain of 100 times. The trap which reduces the carrier voltage below the 5.7 megahertz amplifier grid will provide interference rejection of 50 to 100 times, resulting in a signal-to-noise ratio of less than 0.1. The trap which reduces the carrier voltage below the 5.7 megahertz amplifier grid will provide interference rejection of 50 to 100 times, resulting in a signal-to-noise ratio of less than 0.1. The trap which reduces the carrier voltage below the 5.7 megahertz amplifier grid will provide interference rejection of 50 to 100 times, resulting in a signal-to-noise ratio of less than 0.1.

METHOD 1 FOR CHANNEL 16-20 INTERFERENCE.

METHOD 2 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 3 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 4 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 5 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 6 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 7 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 8 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 9 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 10 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 11 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 12 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 13 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 14 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 15 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 16 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 17 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 18 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 19 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 20 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 21 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 22 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 23 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 24 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 25 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 26 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 27 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 28 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 29 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 30 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 31 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 32 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 33 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 34 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 35 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 36 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 37 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 38 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 39 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 40 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 41 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 42 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 43 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 44 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 45 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 46 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 47 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 48 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 49 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 50 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 51 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 52 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 53 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 54 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 55 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 56 FOR CHANNEL 6-10 INTERFERENCE.

METHOD 57 FOR CHANNEL 6-10 INTERFERENCE.
WIRING CHANGE TO REMOVE R-F AMPLIFIER BIAS

Antenna Orientation

In certain cases antenna orientation is extremely important in the suppression of interchannel interference. In some instances the interference cannot be suppressed by any orientation of the antenna. In other cases the orientation of the antenna will control the interference. Fundamentally this orientation is a matter of obtaining a favorable ratio of signal strengths from the different signal sources involved. For instance, if the signal from channel 10 is much greater than the channel 6 signal, the 10-6 orientation may be arranged to have a favorable signal ratio. However, the overall control of relative signal strength can be obtained by antenna orientation.

In the instance where a high frequency channel is interfering with a low frequency channel such as 10-6, orientation can be seen in the differences in the antenna pattern for the two channels. Figure 3 shows a typical installation which is conducive to reducing interference. Figure 2 shows a reproduction of a similar installation in which the position of the antenna high-channel response lobe points in the direction of channel 10 station, thus providing a stronger signal at the receiver on channel 10 than from either channel 6 or channel 3.

Figure 4 - Antenna Orientation Conduces to Interchannel Interference

The antenna orientation shown is for a condenser for equal signal strength from channel 6 and channel 10. As a result no interchannel interference is noticeable. The antenna should be set so that it is not in the direct path of the signal from channel 10 and channel 6.

The above case was used to show the relationship of antenna orientation in the case of interchannel interference. In this case field conditions will undoubtedly vary with individual conditions. However, the general principles of approach to the solution of the problem should be followed. If one should be carried out in the following order, using a test pattern only.

1. Ion Trap Magnet Adjustment

The ion trap rear magnet poles should be approximately 0.05 inches over the iron trap flag of the ion trap. Starting in this position, adjust the magnets by moving it slightly back or forward at the same time rotating it slightly to obtain the highest rater on the screen. Reduce the brightness control until the meter is barely readable. Adjust the focus control for the clearest indication. Then just the ion trap (for maximum ion rate) the final adjustment should be made with the brightness control at the maximum position at which good focus can be maintained.

2. Width and Horizontal Linearity Adjustments

The setting of the horizontal drive is extremely important since it controls the horizontal linearity of the picture and regulates the high-voltage output of the horizontal amplifier and the correct setting of the horizontal drive involves adjusting the horizontal control so that the vertical position of the picture is centered in the screen. When the Horizontal linearity control is turned clockwise, the screen will be pushed to the right and vice versa. Adjust the Horizontal Linearity control so that the vertical white lines are centered in the limits of the limits of the above setting. Adjust focus control for best line definition at horizontal.

3. Focus Coil Adjustments

Loosen wing nuts on Focus Coil saddle, and center focus coil about back of tube. Check vertical and horizontal positioning controls for setting at mid-point of travel. Readjust focus coil to proper center position and maintain this position while making mechanical adjustments at the above position. Adjust focus coil for best line definition at horizontal.

4. Deflection Yoke Adjustments

Loosen deflection yoke screws, rotate deflection yoke until lines of raster are horizontal in picture and keep this position while making mechanical adjustments at the above position. Adjust deflection yoke for best line definition at horizontal.

5. Vertical Height and Linearity Adjustments

Adjust vertical height and linearity controls until picture is vertically symmetrical (top to bottom) and fills screen (10-0.8) in the center of the screen.

6. Final Focus Adjustments

Tune in pattern. Adjust focus control for maximum definition in test pattern wedges.

FIGURE 2

Disconnect the green lead at XX and connect to O.D. as shown by dotted line.

FIGURE 3

The table of Figure 3 gives the length of a half-wave stub for each channel. The length given is sufficient to make sure that the un-damped antenna is designed the same as the signal source. The length of the stub may be adjusted by inserting the stub at the proper position in the feed line in the field. The table may be used to reduce the trap or the trap may be used to reduce the trap. The trap is used to reduce the trap and the trap may be used to reduce the trap.

FIGURE 4

Antenna orientation is shown for a condenser for equal signal strength from channel 6 and channel 10. As a result no interchannel interference is noticeable. The antenna should be set so that it is not in the direct path of the signal from channel 10 and channel 6.

FIGURE 5

The above case was used to show the relationship of antenna orientation in the case of interchannel interference. In this case field conditions will undoubtedly vary with individual conditions. However, the general principles of approach to the solution of the problem should be followed. If one should be carried out in the following order, using a test pattern only.

1. Ion Trap Magnet Adjustment

The ion trap rear magnet poles should be approximately 0.05 inches over the iron trap flag of the ion trap. Starting in this position, adjust the magnets by moving it slightly back or forward at the same time rotating it slightly to obtain the highest rater on the screen. Reduce the brightness control until the meter is barely readable. Adjust the focus control for the clearest indication. Then just the ion trap (for maximum ion rate) the final adjustment should be made with the brightness control at the maximum position at which good focus can be maintained.

2. Width and Horizontal Linearity Adjustments

The setting of the horizontal drive is extremely important since it controls the horizontal linearity of the picture and regulates the high-voltage output of the horizontal amplifier and the correct setting of the horizontal drive involves adjusting the horizontal control so that the vertical position of the picture is centered in the screen. When the Horizontal linearity control is turned clockwise, the screen will be pushed to the right and vice versa. Adjust the Horizontal Linearity control so that the vertical white lines are centered in the limits of the limits of the above setting. Adjust focus control for best line definition at horizontal.

3. Focus Coil Adjustments

Loosen wing nuts on Focus Coil saddle, and center focus coil about back of tube. Check vertical and horizontal positioning controls for setting at mid-point of travel. Readjust focus coil to proper center position and maintain this position while making mechanical adjustments at the above position. Adjust focus coil for best line definition at horizontal.

4. Deflection Yoke Adjustments

Loosen deflection yoke screws, rotate deflection yoke until lines of raster are horizontal in picture and keep this position while making mechanical adjustments at the above position. Adjust deflection yoke for best line definition at horizontal.

5. Vertical Height and Linearity Adjustments

Adjust vertical height and linearity controls until picture is vertically symmetrical (top to bottom) and fills screen (10-0.8) in the center of the screen.

6. Final Focus Adjustments

Tune in pattern. Adjust focus control for maximum definition in test pattern wedges.
10. Final Inspection

Check all thumb screws on yoke and focus adjustments to see that they are tight. Replace back.

INSTALLATION ADJUSTMENTS (MODEL 55-56)

[Use Test Pattern Only]

1. Ion Trap Magnet Adjustment (See Fig. 7)

The ion trap rear magnet poles should be approximately over the ion trap flag of the lineoscopc. Starting in this position adjust the magnet by moving it slightly back or forward at the same time rotating it slightly to obtain the brightest raster on the screen. Reduce brightness control until the raster is barely visible. Adjust the focus control for clearest indication and readjust the ion trap for maximum brightness. The final adjustment should be made with the brightness control at the maximum position at which good line focus can be maintained.

2. Width and Horizontal Linearity Adjustments

Adjust the width control (L 213) on rear chassis until the picture just fills the mask horizontally (13-3/4 inches). Adjust the horizontal linearity control (L 214) until the test pattern is symmetrical left to right.

3. Focus Coil Adjustments (See Fig. 7)

Loosen wing nuts on focus coil saddle, and center focus coil about neck of tube. Check vertical positioning control for centering at mid point of travel. Retighten focus coil to properly center raster and prevent shadows on the screen, maintaining at the same time the maximum possible distance between focus coil and deflection yoke within the limits of the above settings. Adjust focus control for best line definition at maximum brightness.

WARNING

WHEN CARRYING OUT THIS ADJUSTMENT, EXTREME CARE SHOULD BE EXERCISED SO THAT NO ABNORMAL PRESSURE IS EXERTED ON THE BACK OF THE PICTURE TUBE.

4. Deflection Yoke adjustment (See Fig. 7)

Loosen deflection yoke wing screw, rotate deflection yoke until lines of raster are horizontal in picture mask.

5. Vertical Height and Linearity Adjustments (See Fig. 9)

Adjust the height control (R 160 on rear apron) until the picture fills the mask (10-1/2") and the test pattern is symmetrical from top to bottom. Adjustment of either control will remove readjustment of the other. Adjust vertical centering to align the picture with the mask.

6. Final Focus Adjustments (See Fig. 9)

Tune is test pattern. Adjust focus control for maximum definition in test pattern wedges.

7. Check of Horizontal Sync. Alignment (See Fig. 12)

Tune in television station. Set picture control so picture is barely visible. Receiver should remain in horizontal sync. Repeat check for all stations. If receiver passes above check, horizontal oscillator is properly aligned. If receiver fails to pass above check, turn horizontal frequency adjustment on top rear of chassis until picture fills out sync. Repeat above checks. If receiver fails to lock properly or locks with black vertical bar in picture refer to horizontal phase adjustment.

8. Horizontal Phase Adjustment (See Fig. 13)

This adjustment is not necessary if receiver passed horizontal sync. check.

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Reduce horizontal size until both edges of raster are clearly visible on the screen. Turn up brightness control and reduce contrast so that normally blanked borders of raster are clearly visible. Readjust phase control (under chassis, rear) so that normally blanked borders are equal on both sides.

9. *Horizontal Peaking Adjustment* (See Fig. 9)
   Adjust for minimum fold-over on left hand side of raster.

10. *Final Inspection* (See Fig. 7)
    Check all thumb screws on yoke and focus adjustments to see that they are tight. Replace back.
Section 5 - ALIGNMENT

A. TEST EQUIPMENT

The following is a list of test equipment used in aligning a television receiver.

**SIGNAL GENERATOR** - 10 MC to 225 MC frequency range (minimum). Low impedance output. Calibrated output attenuator.

**MARKER GENERATOR** - 10 MC to 50 MC and 43.75 to 215.75 MC frequency ranges. Extreme accuracy or crystal calibrator. Low impedance output. Output attenuator.

**Sweep Generator** - 10 MC to 30 MC and 44 MC to 216 MC. (Sweep IF's and channels 2 to 13) Frequency range. 300 ohms balanced output. Output attenuator.

**Vacuum Tube Voltmeter** - 3 volt DC, low range desirable.

**Oscilloscope** - Essentially flat vertical amplifier frequency response up to at least 100 KC. Calibrator or step attenuator on input of vertical amplifier.

B. ADJUSTMENTS REQUIRED

Normally only the RF oscillator line will require the attention of the service technician. All other circuits are either broad or very stable and hence will seldom require realignment.

Due to the high frequencies at which the RF oscillator operates, the oscillator tuning adjustment is critical. A tube change will effect the tuning. Tuning can be adjusted for any 6J6 on Channel 13, but it may not then be possible to adjust channels 7, 8, 9, 10, 11, and 12. For a tube to be satisfactory it should be possible to adjust the tuning with the fine tuning control in the middle third of its range. If this cannot be done, select a tube for the oscillator which will match the old one. If the above method does not work, it will be necessary to realign the oscillator coils.

C. ORDER OF ALIGNMENT

When complete receiver alignment is necessary, proceed as outlined below:

1. Sound Discriminator
2. Sound IF Transformers
3. Picture IF Traps
4. Picture IF Transformers
5. R-F and Converter
6. R-F Oscillator
7. Retouch picture IF Transformers
In the event the cone should become magnetized, it can easily be demagnetized by the use of the AC magnetic field produced by a simple coil. A suitable coil consists of approximately 1250 turns of No. 2L copper wire wound on a diameter of seven inches and protected by an insulating covering. Because this coil takes about 1 minute to produce 117 volts and will overheat on continuous duty, it should be used only intermittently. To demagnetize the metal cone, energize the coil and move its flat side over the magnetized area. The coil should not be de-energized until it is moved away from the cone, since the current may not cut off at zero field strength.
### SECTION 7 - REPLACEMENT PARTS

<table>
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<tr>
<th>No.</th>
<th>Description</th>
<th>Stock</th>
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</thead>
<tbody>
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<td>A-427</td>
<td>Bearing - bearing for 877 unit shaft.</td>
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**Notes:** Parts marked with * are not used in Model 55 - 56.