Errata

Title & Document Type: **536A / 537A Coaxial Frequency Meter Operating Note**

Manual Part Number: **00536-90001**

Revision Date: **July 1972**

About this Manual

We've added this manual to the Agilent website in an effort to help you support your product. This manual provides the best information we could find. It may be incomplete or contain dated information, and the scan quality may not be ideal. If we find a better copy in the future, we will add it to the Agilent website.

HP References in this Manual

This manual may contain references to HP or Hewlett-Packard. Please note that Hewlett-Packard's former test and measurement, life sciences, and chemical analysis businesses are now part of Agilent Technologies. The HP XXXX referred to in this document is now the Agilent XXXX. For example, model number HP8648A is now model number Agilent 8648A. We have made no changes to this manual copy.

Support for Your Product

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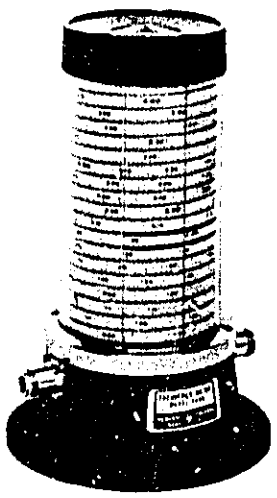
Search for the model number of this product, and the resulting product page will guide you to any available information. Our service centers may be able to perform calibration if no repair parts are needed, but no other support from Agilent is available.

Agilent Technologies

OPERATING NOTE

COAXIAL FREQUENCY METER

536A
537A



JULY 1972

HEWLETT hp PACKARD

HP 536A
HP 537A

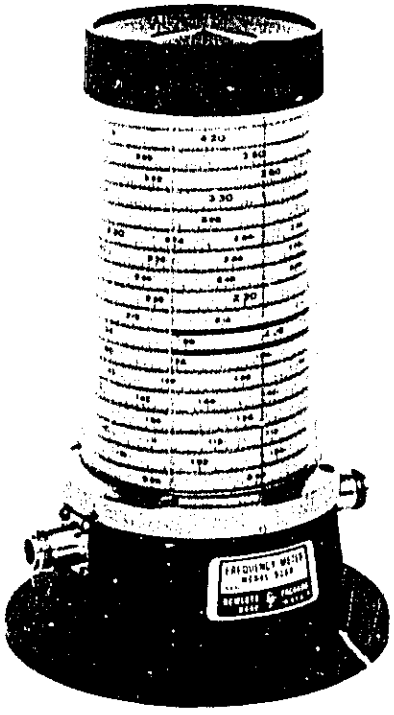


Figure 1. Model 536A Frequency Meter

DESCRIPTION

The Models 536A and 537A Coaxial Frequency Meters are used for measuring frequency in the 0.96 GHz to 12.4 GHz range. Good accuracy is obtained from the spiral scale. The meter contains a coaxial line coupled to a quarter-wavelength coaxial resonant cavity loaded with capacitance at the bottom of the band. At resonance, power is absorbed by the cavity, producing a dip in the coaxial line power. The frequency at which this dip occurs is read directly from the dial, in gigahertzes. The Model 536A is shown in Figure 1 (the 537A is physically smaller but similar in appearance). Complete specifications for both instruments are given in Table 1.

Tuning is accomplished by moving a piston. A precision lead-screw, which is spring-loaded to prevent backlash, is used to position this piston in the cavity.

Due to the design of the cavity, its electrical length is extended at lower frequencies, and there are no spurious modes. The input and output connectors are type N, female.

MEASUREMENTS

A detector and indicator are required to indicate the dip in coaxial line power at resonance. It is recommended that 10 dB of attenuation be placed

Table 1. Specifications

Model	Frequency Range (GHz)	Reflection Coefficient Off-Resonance	Calibration Increments (MHz)	Dimensions	Weight (net)
536A	0.96 – 4.2	0.091 (1.2 SWR, 20.8 dB return loss)	2	Height 9-1/8 in. (232 mm) 6 in. (152 mm) Diameter	10 lbs (4, 5 kg)
537A	3.7 – 12.4	0.33 (2.0 SWR, 9.5 dB return loss)	10	Height 5-3/4 in. (146 mm) 3-1/2 in. (89 mm) Diameter*	3-1/2 lbs (1, 6 kg)

Dip at Resonance:
At least 1 dB (536A only; at least 0.6 dB, 0.96 to 1 GHz and 4 to 4.2 GHz)

Dial Accuracy**:
± 0.1% (± 0.15% for 536A, 0.96 to 1 GHz)

Dial Accuracy:
± 0.1% (± 0.15% for 536A - 0.96 to 1 GHz)

*Width (including connectors): 4-5/8 in. (118 mm).

**Overall Accuracy: ± 0.17% (± 0.22% for 536A, 0.96 to 1 GHz) which includes allowance of ± 0.02% for 0-100% relative humidity, ± 0.0016 per °C from 13 to 33°C and 0.03% backlash.

between the signal source and the Frequency Meter. If insufficient power is available to use a 10-dB attenuator, an attenuator offering less attenuation may be used, to a minimum of 3 dB. The attenuator prevents a shift in the frequency of the signal source due to line impedance changes at resonance.

The detector-indicator combination can be a thermistor mount and power meter such as the HP Model 478A and 432A, or a crystal detector and SWR Meter such as the HP Model 423A and 415E. If the Model 415E SWR Meter is used as the indicator, the signal source must be modulated at 1000 Hz (sine or square wave modulation). For visual display, an oscilloscope can be used as the indicator. When using an oscilloscope for swept-frequency displays, always be sure to sweep the oscilloscope at the same rate as the signal source. Resonance will be noted as a dip in the oscilloscope pattern.

PRECAUTIONS

DO NOT RUN DIAL INTO STOPS AT EITHER END OF DIAL.

If frequency measurement is just one part of the measurement procedure, be sure to move meter off resonance before proceeding with other measurements.

PERFORMANCE TESTING

Purpose. The procedures listed in Figures 2 and 3 check performance for incoming inspection, periodic evaluation, and calibration. The tests are performed without any access to the instrument interior. The specifications of Table 1 are the performance standards.

NOTE

The performance checks are written for the Model 536A and are similar for the Model 537A. Differences in test limits are mentioned where they exist.

Test Equipment Recommended. The test instruments required to make the performance checks are listed in Table 2. Test instruments other than those listed may be used provided their performance equals or exceeds the critical specifications given.

MAINTENANCE

For Dial-Stop Gear replacement and/or instrument re-calibration, refer to Figure 4 or 5: Figure 4 for Model 536A and Figure 5 for Model 537A. For any other repair needs, contact your local Hewlett-Packard Sales and Service Office for instructions and assistance.

Table 2. Recommended Test Equipment

Instrument Type	Critical Specifications	Suggested Model	Use (Note 1)
Sweep Oscillator	CW and swept-frequency signal in 0.96 to 12.4 GHz range. Output: at least +7 dBm	HP Model 8620 with: Model 8621A and: 86330A+86320A (0.1 to 4.2 GHz) 86341B (3.2 to 6.5 GHz) 86342A (5.9 to 9 GHz) 86350A (8.0 to 12.4 GHz)	P, T
Directional Coupler	Frequency: 1.7 to 12.4 GHz Directivity: > 26 dB	HP 779D	P, T
Crystal Detector	Frequency: 0.96 to 12.4 GHz Sensitivity: > 0.4 mV/μW	HP 423A	P, T
Oscilloscope	Vert. Sens.: < 20 mV/cm Horiz. Sens.: < 1 V/cm	HP Model 180A with: 1807A Vertical Amplifier 1820A Time Base	P, T
Counter	Frequency: 0.96 to 12.4 GHz Sensitivity: < − 7 dBm	HP Model 5145L with Model 5157A Transfer Oscillator	P, T

P = performance tests, T = troubleshooting

PERFORMANCE TESTS

RETURN LOSS

SPECIFICATIONS:

536A

Reflection Coefficient Off-Resonance: 0.091 (1.2 SWR, 20.8 dB return loss)

537A

Reflection Coefficient Off-Resonance: 0.35 (2.0 SWR, 9.5 dB return loss).

DESCRIPTION: Two 11664A Detectors are connected together with a 11665A Modulator, an 8755A Swept Amplitude Analyzer, and a dual directional coupler in a reflectometer test setup. The reflectometer is calibrated using a short. The 536A/537A Coaxial Frequency Meter under test is connected and the return loss measured.

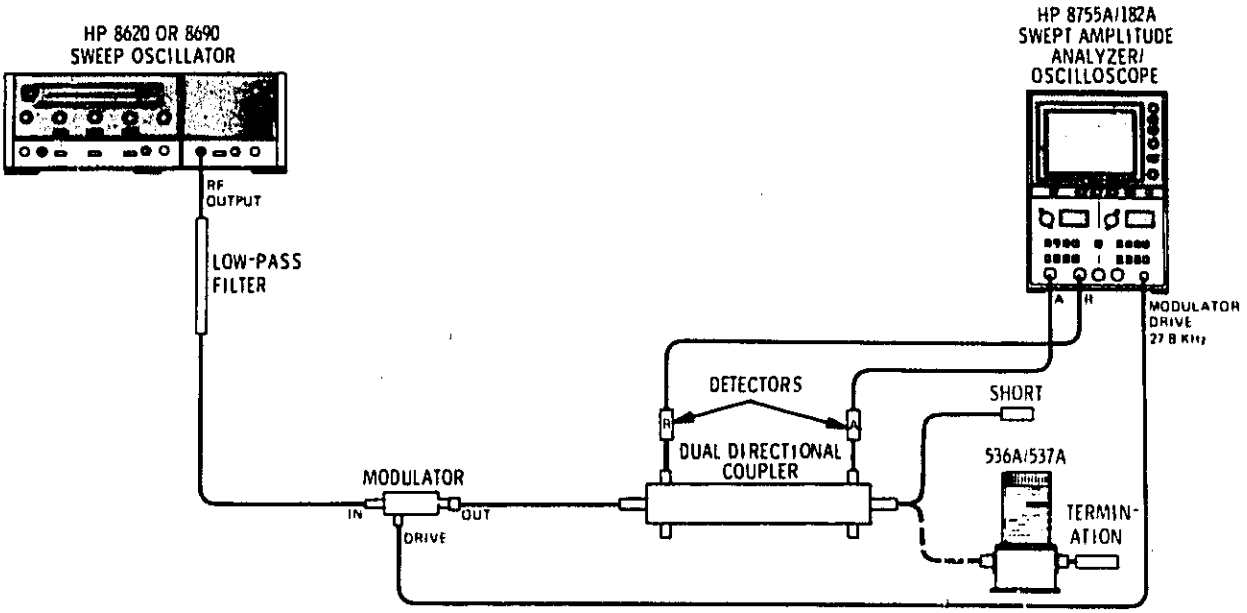


Figure 2. Return Loss Test Setup

EQUIPMENT:

Sweep Oscillator	HP Model 8620 mainframe with:
	HP Model 8621A and:
	86330A plus 86320A (0.1 to 4.2 GHz)
	86341B (3.2 to 6.5 GHz)
	86342A (5.9 to 9 GHz)
	86350A (8.0 to 12.4 GHz)
Dual Directional Coupler*	778D (110 MHz to 2 GHz)
	779D (1.7 to 12.4 GHz)
Detectors (2 required)	11664A
Modulator	11665A
Swept Amplitude Analyzer/Oscilloscope	8755A/182A
Coaxial Short	11511A (Type N female)
	11512A (Type N male)
	11565A (APC-7)

*Two single directional couplers connected as a dual directional coupler can also be used.

PERFORMANCE TESTS

RETURN LOSS (cont'd)

Low-Pass Filter	360A (700 MHz cutoff) 350B (1.2 GHz cutoff) 360C (2.2 GHz cutoff) 360D (4.1 GHz cutoff)
Termination	909A (APC-7) 909A (Opt. 012, type N male)

PROCEDURE:

1. Connect the equipment as shown in Figure 2.
2. Set the 8755A CHANNEL A OFFSET dB control to 0 dB.
3. Set CHANNEL A OFFSET CAL switch to OFF.
4. Press CHANNEL A DISPLAY POSITION pushbutton.
5. Adjust CHANNEL A screwdriver adjustment marked POSITION to place trace on the center graticule. Increase resolution and make fine adjustment.
6. Place short on reflectometer.
7. Press CHANNEL A pushbuttons marked DISPLAY R and 10 dB/DIV.
8. Set the sweep oscillator to sweep the band of interest.
9. Adjust the sweep oscillator output power level to place the trace on the second graticule below the center graticule. (Power input is −20 dBm to the R detector.)
10. Press CHANNEL A pushbutton marked DISPLAY A/R.
11. Turn CHANNEL A OFFSET CAL control to ON and adjust the OFFSET CAL control to place the trace on the center graticule.
12. Increase the dB/DIV resolution by steps to 0.25 dB/DIV. If necessary, adjust the OFFSET CAL control to return the trace to the center graticule.
13. Disconnect the short from the reflectometer test port.
14. Connect the 536A/537A under test to the reflectometer test port by disconnecting the short and inserting the properly terminated 536A/537A under test.
15. Use CHANNEL A OFFSET dB thumbwheel to return the trace to the center of the screen, or as close as possible.
16. Read the return loss at the CHANNEL A OFFSET dB window and on the oscilloscope. Return loss is the total indication of both the CHANNEL A OFFSET dB window and the trace on the oscilloscope. Add the trace indication to the window reading if the trace is below the center graticule, subtract if above.
17. Return loss measured should be equal to or greater than the following limits:

PERFORMANCE TESTS

RETURN LOSS (cont'd)

	Lower Limit of Reading		
	Coupler Directivity		
Specification	26 dB	30 dB	40 dB
20.8 dB 9.5 dB	27.8 dB 11.0 dB	24.6 dB 10.5 dB	21.9 dB 9.8 dB

18. If the above limits are not met, test the 536A/537A using a slotted line at the frequency in question.

OVERALL ACCURACY

SPECIFICATIONS: 536A and 537A: ±0.17% Overall Accuracy.

DESCRIPTION: A sweep oscillator, a 536A/537A under test, a detector, and an oscilloscope are connected in series. The sweep oscillator is set to ΔF to sweep the band in question. The 536A/537A is set to the frequency in question and the notch located on the trace. The sweep oscillator is set to CW and adjusted to the center of the absorption notch of the 536A/537A. The frequency of the sweep oscillator is measured with a counter and compared with the specifications in Table 1. The sweep oscillator is set to automatic sweep and the notch depth across the band is checked.

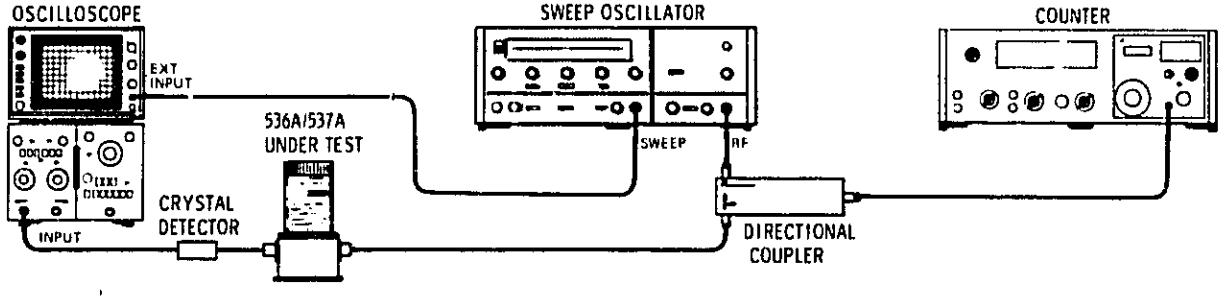


Figure 3. Overall Accuracy Test Setup

EQUIPMENT:

Sweep Oscillator	HP Model 8620 mainframe with: HP Model 8621A and: 86330A plus 86320A (0.1 to 4.2 GHz) 86341B (3.2 to 6.5 GHz) 86342A (5.9 to 9 GHz) 86350A (8.0 to 12.4 GHz)
Directional Coupler	HP Model 779D
Crystal Detector	HP Model 423A
Oscilloscope	HP Model 180A mainframe with: 1820C Time Base 1807A Dual Channel Vertical Amplifier.
Counter	HP Model 5245L mainframe with: 5257A Transfer Oscillator

PERFORMANCE TESTS

OVERALL ACCURACY (cont'd)

PROCEDURE:

1. Connect the equipment as shown in Figure 3.
2. Set oscilloscope for a vertical sensitivity of about .02 V/cm (ac) and horizontal sensitivity of about 1 V/cm.
3. Set sweep oscillator for ΔF automatic sweep of about 1 GHz ±4 MHz (3.8 GHz ±12 MHz for 537A).
4. Set the Model 536A to 1 GHz (537A to 3.8 GHz).
5. Locate the Frequency Meter notch and center it on the display by adjusting the sweep limits on the sweep oscillator.
6. Set the sweep oscillator to CW and adjust the frequency to the center of the notch (lowest indication on the oscilloscope).
7. Read the frequency on the counter. Frequency should be within the specifications given in Table 1.
8. Repeat above procedure every 200 MHz across the band.
9. Set sweep oscillator to automatic sweep and tune 536A/537A across frequency range of sweep oscillator. The notch travel across the frequency range should cause at least the notch depth given in Table 1.

Table 3. Parts Identification List

1	0370-0082	Knob, 3-3/4 O.D. 3.062 I.D. Blk	1
2	3030-0001	Screw, Set Stl Hex. Dr. 8-32 x 3/16 LG	4
3	3030-0033	Screw, Set SS 6-32 x 0.1875	2
4	H532A-16	Cap	1
5	1460-0056	Spring, Decade Plug 2.5 LG	1
6	2210-0002	Screw, Mach. Fil. H. SS 4-40 x 0.250 LG	3
7	536A-3	Window, Dial	1
8	H532A-20	Nut, Window Retaining G, H, J Bands	1
9	00536-20016	Dial, Frequency (Standard)	1
9	536A-4	Dial, Frequency (Opt X95)	1
10	H532A-21	Cursor, G,H,J Bands	1
11	536A-5	Holder, Dial	1
12	536A-7	Nut	1
13	00536-2014	Plunger Assy	1
14	1410-0076	Bearing, Ball 0.25 Bore 0.942 O.D	1
15	536A-14	Sleeve	1
16	00536-20015	Base (Moss gray, Std.)	1
16	536A-16	Base (Blue texture, Opt. X95)	1
17	0510-0070	Ring, Retaining Ext. .015 Thk.	1
18	3050-0124	Washer, Brass, 0.218 O.D. , 0.130 I.D.	1
19	P532A-19	Gear, Stop	1
20	536A-6	Shaft, 2-1/2 LG	1
21	0510-0072	Ring, Retaining Int. .093 Thk.	1
22	0520-0012	Screw, Mach. Fil. H. 2-56 x 0.250 LG	1

The following special tool is required for this procedure: an industrial No. 105 pliers modified by bending the tips approximately 45 degrees. These pliers may be ordered by description from the Industrial Plier Distributor.

Upon completion of the stop gear replacement it will be necessary to check the frequency calibration of the instrument.

STOP GEAR REPLACEMENT PROCEDURE

To replace the stop gear, proceed as follows: (numbers in parentheses refer to numbers on drawing in Figure 4)

1. Remove knob (1).
2. Scribe dial position to give approximate location of dial on dial holder. (Do not use pencil as this may be inadvertently erased.)
3. Unscrew four flat-head screws (6) holding window-retaining ring (8).
4. Remove ring and window.
5. Loosen two No. 8 Allen set-screws (2) holding dial. (These are located on the inside of dial holder (11).
6. Turn dial holder until cap (4) is approximately flush with top of dial holder (near high-frequency stop position).
7. Scribe a line from lead screw on plunger to cap for later alignment.
8. Loosen both No. 6 Allen set-screws (3) holding cap in place on lead screw. These are internal and may be found by looking through the two inspection holes in dial holder. These are spaced approximately 90 degrees apart.
9. While holding cap in place, back out both screws sufficiently to allow removal of cap. This should be approximately three full turns of the Allen screw. If spring jumps out, replace it and cap with big diameter end of spring at bottom of dial holder.

CAUTION

Do not turn or remove plunger.

Figure 4. Model 536A Repair and Re-Calibration (1 of 3)

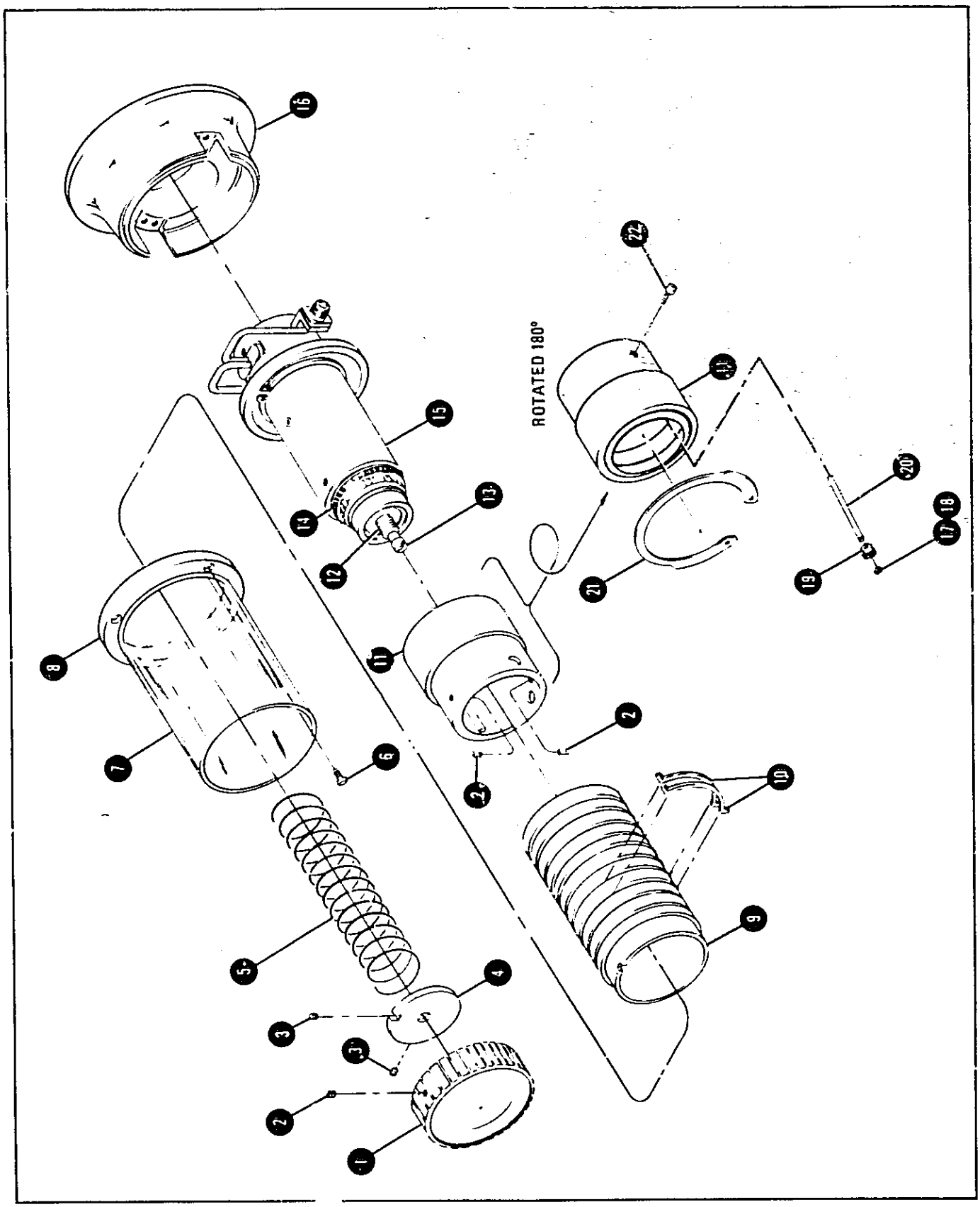


Figure 4. Model 536A Repair and Re-Calibration (2 of 3)

10. Turn the 536A upside-down and remove the Truarc retaining ring holding dial holder (21). (This requires special Truarc pliers or industrial No. 105 pliers. It may be necessaary to adapt some of your own tools to the job of removing the retaining ring.)
11. Lift 536A off dial holder and place base assembly upright again. Examine both sections for pieces of broken stop gear.
12. Inspect bearing and gear rack to make sure that these haven't been damaged by portions of the broken stop gear. If any of the internal workings other than stop gear have been damaged, it will be necessary to return to the factory for a major rebuilding.
13. Replace dial holder, taking care not to damage gears when engaging stop gear with gear rack.
14. Check rotation of the dial holder. There should be approximately 18 turns of the dial. If the dial makes 3 or 9 turns, disengage and try again with a new gear position.
15. When the stop gear is positioned to give approximately 18 turns from stop to stop, secure dial holder with the Truarc retaining ring. Make sure ring is seated properly on the inside groove of dial holder.
16. Turn dial holder to stop at high-frequency end of dial.
17. Insert spring into dial holder, large diameter end first.
18. Replace cap by compressing spring. Note alignment of cap and lead screw. See steps 6 and 7.
19. Lightly tighten both No. 6 Allen set screws holding cap to lead screw.
20. Turn from stop to stop. Check for binding or other erratic behavior. It may be necessary to make slight adjustments in cap position so that no binding occurs during rotation.
21. Turn dial holder counterclockwise (toward lower frequency) to expose dial retaining set screws.
22. Place dial on dial holder and check alignment with scribe mark of step No. 2.
23. Tighten both No. 8 Allen set screws to hold dial in place. CAUTION: Do not tighten excessively as knob may not slip into place over the dial/dial holder.
24. Turn dial clockwise near stop at the high-frequency end and place both cursors (10) into the dial grroves to indicate approximately 4.2 GHz.
25. Carefully replace window and window-retaining ring making sure that cursors ride in the window grooves.
26. Align window with base. Window key must be in the base groove.
27. Replace the four screws holding window-retaining ring.
28. Turn from stop to stop. Check for binding or other erratic behavior. It may be necessary to make slight adjustments in screw tightness or dial position so that no binding occurs during dial rotation.
29. When assured of smooth operation, check calibration. Calibration should be reasonably close if care was taken in alignment of the cap lead-screw and dial. Replace knob. Refer to calibration procedure.

CALIBRATION PROCEDURE

The recommended test equipment is listed in Table 2. The procedures listed in Figures 2 and 3 check performance. If the overall accuracy test shows the need of moving the dial, proceed as follows:

1. Remove knob (1).
2. Remove base (20) 8 screws; return to upright position and make electrical hookup for overall accuracy check (refer to Figure 3).
3. In the original high-end setting, 4 GHz is set one turn counterclockwise from the stop. The dial (9) is held to the dial holder (11) by two set screws (2). A check is made at 2 GHz, and if not within specifications, the set screws are loosened and a compromise is made between the 2 and 4 GHz settings. The set screws are loosened from inside the dial holder; the dial must be rotated approximately 6 turns before the access holes become visible.
4. The low-frequency end adjustment is made at 1.0 GHz by moving the load back and forth; the set screws are located in the sleeve base on either side of the "N" connectors. This adjustment should only have an effect on frequencies up to 1.6 GHz and should not change the high-frequency setting.
5. If accuracy specifications cannot be met, further dis-assembly is not recommended; the unit should be returned to the Service Center.
6. Replace base and knob.

Figure 4. Model 536A Repair and Re-Calibration (3 of 3)

1. STOP GEAR REPLACEMENT PROCEDURE

2. Upon completion of the stop gear replacement it will be necessary to check the frequency calibration of the instrument.

3. The following special tool is required for this procedure. A Waldes No. 3 Truarc pliers with tips bent 45 degrees.

4. For the following procedures refer to Figure 5 and Table 1.

5. DISASSEMBLY PROCEDURE

(Numbers in parentheses refer to numbers on drawing in Figure 5.)

To replace the stop gear, proceed as follows:

a. Remove knob (1)

b. Scribe dial position to give approximate location of dial on dial holder. Do not use pencil as this may be inadvertently erased.

c. Unscrew dial-window retaining nut (3).

d. Remove nut and window.

e. Loosen two No. 6 Allen set-screws (9) holding dial. These are located on the inside of dial holder (10).

f. Turn dial holder until cap (7) is approximately flush with top of dial holder (near high frequency stop position).

g. Scribe a line from lead screw on plunger to cap for later alignment.

h Loosen both No. 6 Allen set screws (9) holding cap in place on lead screw. These are internal and may be found by looking through the two inspection holes in dial holder. These are spaced approximately 90 degrees apart.

i. While holding cap in place, back out both screws sufficiently to allow removal of cap. This should be approximately three full turns of the Allen screw. If spring and cap jump out, replace them with big-diameter end of spring at bottom.

CAUTION

Do not turn or remove plunger.

j. Turn the 537A upside down and remove the Truarc retaining-ring holding dial holder (3). (This requires special Truarc pliers. It may be necessary to adapt some of your own tools to the job of removing the retaining ring.)

k. Lift 537A off dial holder and place base assembly upright again. Examine both sections for pieces of broken stop gear.

l. Inspect bearing and gear rack to make sure that these haven't been damaged by portions of the broken stop gear. If any of the internal workings other than stop gear have been damaged, it will be necessary to return to the factory for a major rebuilding.

6. REASSEMBLY PROCEDURE

a. Replace dial holder, taking care not to damage gears when engaging stop gear with gear rack.

b. Check rotation of the dial holder. There should be approximately 11-1/4 turns of the dial. If not, disengage and try again with a new gear position.

c. When the stop gear is positioned to give approximately 11-1/4 turns from stop to stop, secure dial holder with the Truarc retaining ring. Make sure ring is seated properly on inside groove of dial holder.

d. Turn dial holder to stop at high-frequency end of dial.

e. Insert spring into dial holder.

f. Replace cap by compressing spring. Note alignment of cap and lead screw. See steps f thru i of disassembly procedure.

g. Tighten both No. 6 Allen set-screws holding cap to lead screws.

h. Turn from stop to stop. Check for binding or other erratic behavior. It may be necessary to make slight adjustments in cap position so that no binding occurs during rotation.

i. Turn dial holder counterclockwise (toward lower frequency) to expose dial retaining set screws.

j. Place dial on dial holder and check alignment with scribe mark of step 2.

Figure 5. Model 537A Repair and Re-Calibration (1 of 3)

Table 4. Parts Identification List

1	0370-0072	Knob	1
2	3030-0001	Screw, Set 8-32 x 3/16	2
3	X532A-35	Nut, Dial Window Retainer	1
4	K532A-18	Window	1
5	00537-21?	Dial	1
6	K532A-20	Cursor	2
7	R532A-16	Cap	1
8	1460-0044	Spring, Lead Screw	1
9	3030-0022	Screw, Set 6-32 x 1/8	2
10	P532A-4	Holder, Dial	1
11	00537-204	Base	1
12	P532A-2	Ring, Retaining	1
13	00537-601	Coupling Loop Assy	
14	1410-0071	Bearing, Ball	1
15	00536-2 00537-206	Window Support	
16	0520-0012	Screw, Fill Hd 2-56 x 1/4	1
17	P532A-5	Shaft Stop Gear	1
18	P532A-19	Gear Stop	1
19	3050-0124	Washer	1
20	0510-0890	Ring Retaining	1

k. Tighten both No. 6 Allen set-screws to hold dial in place. CAUTION: Do not tighten excessively as knob may not slip into place over the dial/dial holder.

m. Turn dial clockwise near the stop at the high-frequency end and place both cursors (6) into the dial grooves to indicate approximately 12.4 GHz.

n. Carefully replace window making sure that cursors ride in the window grooves.

p. Align window with base. Window keys must be in the window retention grooves.

q. Replace window-retaining nut.

r. Turn from stop to stop. Check for binding or other erratic behavior. It may be necessary to make slight adjustments in screw tightness or dial position so that no binding occurs during dial rotation.

s. When assured of smooth operation, check calibration. Calibration should be reasonably close if care was taken in alignment of the cap lead screw and dial. Replace knob.

7. CALIBRATION PROCEDURE

8. Test equipment recommended for testing the 537A is listed in Table 2. Test equipment other than that recommended may be substituted if their performance equals or exceeds the Minimum Required Specifications given. Figures 2 and 3 list procedures for checking instrument specifications. If dial accuracy is not within listed specifications, adjust Model 537A as detailed in the Calibration Alignment Procedure.

9. CALIBRATION ALIGNMENT PROCEDURE

10. If dial accuracy of the Model 537A is not within specifications, the following procedure can be used for readjustment.

a. Remove knob (1).

b. Remove base (11) retaining screws. With base retaining screws removed, place Model 537A in upright position and make electrical hookup for OVERALL ACCURACY TEST.

c. In the original high-frequency end setting, 12.4 GHz is set almost one-half turn (about 150 degrees) counterclockwise from the stop. The dial (5) is held to the dial holder (19) by two set screws (9). Check frequency accuracy at 12.4 GHz, and if not within overall accuracy specification, loosen set screws (9) and slip dial. The set screws are loosened from inside the dial holder; the dial must be rotated about 6 turns before the access holes become visible.

d. The low-frequency end adjustment is made at 3.7 GHz by moving capacitive load with two screws (set-screws on 536, capscrews on 537). This adjustment should not change the high frequency setting.

e. Check dial accuracy in vicinity of 3.7 to 4.1 and 8.2, 12.0, and 12.4 GHz. Reposition the dial, or capacitive load if a compromise is necessary.

f. If accuracy specifications cannot be met, further disassembly is not recommended. The unit should be returned to your local Hewlett-Packard Sales and Service Office.

g. Replace base and knob.

Figure 5. Model 537A Repair and Re-Calibration (2 of 3)

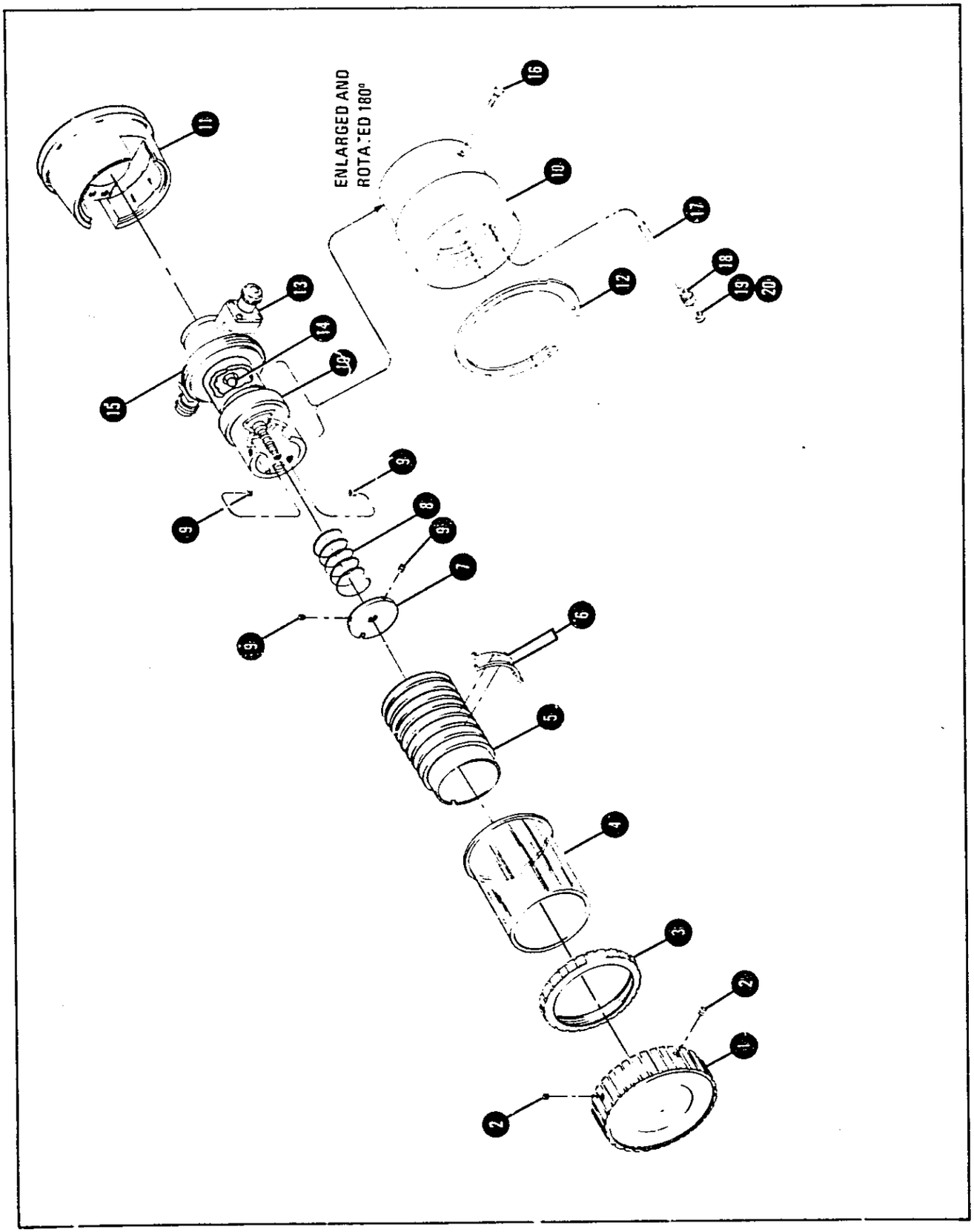


Figure 5. Model 537A Repair and Re-Calibration (3 of 3)

MANUAL CHANGES

MANUAL CHANGES

MANUAL IDENTIFICATION

Model Number: 536A/537A
Date Printed: July 1972
Part Number: 00536-90011

This supplement contains important information for correcting manual errors and for adapting the manual to instruments containing improvements made after the printing of the manual.

To use this supplement:

Make all ERRATA corrections

Make all appropriate serial number related changes indicated in the tables below.

Serial Prefix or Number	Make Manual Changes

Serial Prefix or Number	Make Manual Changes

► NEW ITEM

ERRATA

Page 1, Table 2. Recommended Test Equipment:
Change Counter Model to 5245L and Transfer Oscillator to 5257A.

Page 6, Table 3. Parts Identification List:
Change the part numbers to read as follows.

1	5040-6951	5	1460-0056
2	3030-0079	14	1410-0026

Page 10, Table 4. Parts Identification List:
Change the part numbers to read as follows.

1	5040-6950	11	0510-0890
2	00532-40005	14	1410-0005
5	00537-20031	20	0510-0070
10	00537-20029		

NOTE

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