

INSTRUCTIONS FOR INSTALLING THE 199368
(FOR KSR) AND THE 199369 (FOR ASR) MOD-
IFICATION KITS TO UPDATE EARLY DESIGN
MODEL 35 SETS WITH SIGNAL REGENERATORS

1. GENERAL

1.01 The 199368 modification kit is to be installed on the following KSR Sets to provide signal regeneration.

- (a) Early design 35AN (friction feed) KSR Sets and 35AP (sprocket feed) KSR Sets consist of a KSR Set less typing unit plus a friction or sprocket feed typing unit. The set has an LESU309 (no Bell code) electrical service unit.
- (b) Installation of the 199368 modification kit converts the set into a late design 35AN or 35AP KSR Set. The LESU309 of the set is converted to an LESU337.
- (c) Because of space limitations on the electrical service unit, the signal regenerator assembly can not be mounted on the electrical service unit with the optional electrical motor control assembly or the optional auxiliary power supply assembly.

1.02 The 199369 modification kit is to be installed on the following ASR Sets to provide signal regeneration.

- (a) Early design 35 AR (friction feed) ASR Set and 35AS (sprocket feed) ASR Set consist of an ASR Set less typing unit plus a friction or sprocket feed typing unit. The set has a nontyping reperforator, an LESU313 (no Bell code) electrical service unit, and a 198242 mode switch assembly.
- (b) Installation of the 199369 modification kit converts the set into a late design 35AR or 35AS ASR Set. The LESU313 of the set is converted to an LESU338, and the 198242 panel w/cable (mode switch) is converted to 317361.
- (c) Early design 35AR-SPL (friction feed) ASR Set and 35AS-SPL (sprocket feed) ASR Set are the same as the 35AR and 35AS Sets except that they have a typing reperforator instead of a nontyping reperforator.

SPECIFICATION 50487S

(d) Installation of the 199369 modification kit converts the sets into late design 35AR-SPL or 35AS-SPL ASR Sets. The LESU313 of the set is converted to an LESU338, and the 198242 panel w/cable (mode switch) is converted to 317361.

1.03 The 199368 kit consists of:

1	41382	Spring	1	198236	Stud, cam follower
1	90391	Washer, felt	1	305446	Regenerator, signal
1	125015	Washer, flat	1	324010	Contact assembly
1	179800	Toggle w/contacts	1	324011	Follower, cam w/hub
2	195241	Screw w/contact	1	324012	Stud
2	197054	Wire assembly	1	324013	Spring post

1.04 The 199369 kit consists of:

1	2669	Lockwasher	1	199365	Cable assembly
0.25 ft.	39603RM	Wire	1	199449	Switch section w/strap
1	41382	Spring	1	305446	Signal regenerator
1	90391	Washer, felt	1	312684	Wire assembly
1	121247	Cable clamp	1	321915	Eccentric
1	121249	Cable clamp	1	321916	Contact assembly
1	125015	Washer, flat	1	324010	Contact assembly
1	177894	Nut	1	324011	Follower, cam w/hub and post
2	179800	Toggle w/contacts	1	324012	Stud
1	182520	Rectifier	1	324013	Spring post
4	195241	Screw w/contact	1	326635	Network, spark suppression
1	198236	Stud, cam follower			
1	199331	Cable assembly			

1.05 For parts ordering information, other than the parts in the kits, refer to the appropriate standardized information.

2. INSTALLATION

Note 1: The following equipment is needed in making the modifications:

Long Nose Pliers
Wire Cutter
Soldering Iron and Solder
Tweezers

1/4 inch and 3/16 inch Socket
or End Wrench
Screwdriver
Electrical Tape

Note 2: All directions (front, rear, left, right) are given with reference to the set as viewed by a person typing.

2.01 To install the 199368 kit in KSR Sets:

- (a) Isolate the set from all power sources.
- (b) Open the upper cover, push the lower cover latch, and raise the lower cover in accordance with standard procedure.

Note: For better access to the electrical service unit, the lower cover may be removed in accordance with standard procedure.

- (c) Replace the 192485 or 319946 timing contact assembly in the keyboard with the 324010 timing contact assembly. Follow the procedure given in Specification 50479S.
- (d) If the signal generator contacts have been used in a circuit with a power level greater than 40 v dc at 20 ma, they should be replaced. The procedure is given in Specification 50479S.
- (e) Disconnect the arc suppressor in the signal generator as shown in Figure 6, Specification 50486S.
- (f) Remove the cover above the C wiring field and make the following changes in the LESU309 electrical service unit: Refer to 6046WD (actual for LESU309) and 7877WD (actual for LESU337).

Move brown wire (F-1-BR) from C-2C to C-1C

Move white-brown wire (H-12-W-BR) from C-2C to C-4D

Move black wire (F-2-BK) from C-3B to C-2C

Move white wire (F-4-W) from C-3B to C-2C

Move black-green wire (F-21-BK-G) from C-4E to C-4C

Add a 197054 strap between C-3B and C-4C

Add a 197054 strap between C-5A and C-4D

Move the end of the strap between C-4H and C-5H from C-4H to C-4G

- (g) Install the 305446 signal regenerator assembly in the LESU309 electrical service unit as follows:
 - (1) Loosen the two screws which mount the selector magnet driver (SMD) assembly to the electrical service unit frame, and loosen the four posts which fasten the C wiring field to the electrical service unit frame. Lift the wiring field and SMD, and route the cable of the 305446

SPECIFICATION 50487S

assembly under the SMD and through the opening at the rear of the C wiring field. Mount the 305446 signal regenerator assembly in the electrical service unit with the circuit card on the right, adjacent to the left edge of the SMD. Fasten the 305446 and SMD assemblies and C wiring field.

- (2) Connect the wires of the 305446 signal regenerator assembly to the C wiring field as follows:

White-black to C-5C
White-purple to C-4C
White-green to C-2C
White-orange to C-5B
White-blue to C-1C
Brown-yellow and white-yellow to C-5A
White-slate to C-2H
White-red to C-4H
Tape the end of the red-green wire.

2.02 To install the 199369 kit in ASR Sets:

- (a) Isolate the set from all power sources.
- (b) Open the upper cover, push the lower cover latch, and raise the lower cover in accordance with standard practice.

Note: It is not necessary to remove the "bezel" or "faceplate." For better access to the electrical service unit, remove the lower cover in accordance with standard practice.

- (c) Replace the 192485 timing contact assembly in the keyboard with the 319946 timing contact assembly. Replace the 192605 timing contact assembly in the transmitter distributor with the 321916 timing contact assembly, and install the 321915 eccentric, 2669 lockwasher, and 177894 nut. Follow the procedures given in Specification 50479S.
- (d) If the signal generator contacts have been used in a circuit with a power level greater than 40 v dc at 20 ma, they should be replaced. Follow the procedure given in Specification 50479S.
- (e) Disconnect the arc suppressor in the signal generator as shown in Specification 50486S.
- (f) Remove the mode switch panel by removing the two screws in front which mount it. Make the following changes in the mode switch assembly. Refer to 6903WD and 7915WD.

(g) Remove the two nuts and two lockwashers which hold the rotary switch assembly together. Lift off switch sections 5, 4, and 3. On section 3, remove the brown-blue, red, blue, and red-green wires, and remove the end of the strap whose other end is fastened to terminal 7 of section 2. Reassemble the switch using the 199449 switch section w/straps for section 3, and solder the previously removed four wires and strap to this section. Make sure that all sections are oriented as shown on 7915WD, and that the key slots in the rotating portion in the center of the section are all lined up on the same flat surface on the side of the switch shaft.

(h) Add and remove straps and change wires on the mode switch as follows:

Remove the strap between terminal 5 of section 2 and terminal 7 of section 1.

Move the orange wire (S-5-O) from terminal 8 of section 1 to terminal 5 of section 2.

Add straps between terminals 7 and 8 of sections 4 and 5 using a piece of the 39603RM bare wire furnished.

Remove the strap between terminal 9 of section 1 and terminal 7 of section 2 and replace it with the 182520 rectifier (or diode). Install with the banded end toward terminal 7 of section 2.

(i) Connect the 199331 cable to the mode switch as follows:

White-red wire to terminal 8 of section 1

White-black wire to terminal 6 of section 5

Brown wire to terminal 8 of section 5

(j) Remove the cable clamp and clamp the 199331 cable and old cable together using the 121247 (7/16 inch) cable clamp provided.

(k) Push the terminals into the S and V connectors as follows:

White-red to S-12

Brown to V-10

White-black to V-12

(l) Remount the mode switch panel.

SPECIFICATION 50487S

(m) Make the following changes in the LESU313 electrical service unit:
Refer to 6394WD (actual for LESU313) and 7914WD (actual for LESU338).

(n) Push the terminals on the wires of the 199365 cable into the S and V mode switch connectors of the LESU313 as follows:

White-red to S-12
White-orange - blue to V-10
White-black to V-12

(o) Remove the cable clamp and clamp the 199365 cable and old cable using the 121249 (5/8 inch) cable clamp provided. Mount with the cable below the clamp mounting screw so the cable runs close to the bottom of the electrical service unit.

(p) Remove the cover above the C wiring field. Move and add wires on the C wiring field of the electrical service unit as follows:

Add the 312684 strap between C-2F and C-5C
Move white-black-orange wire (F-34-W-BK-O) from C-5C to C-4G
Move white-brown wire (H-12-W-BR) from C-5C to C-4G
Move black-brown wire (U-4-BK-BR) from C-2E to C-2F
Move blue-green wire (U-1-BL-G) from C-3E to C-1F
Move blue-green wire (F-35-BL-G) from C-3E to C-4E

Note: There are two blue-green wires on C-3E. The U-1-BL-G wire can be seen to go into the cable to the transmitter distributor by loosening the four mounting posts and raising the C wiring field, or the wires may be checked for continuity with ohmmeter or lamp.

Move green-slate wire (U-2-G-S) from C-4E to C-3E
Move red-blue wire (F-3-R-BL) from C-6E to C-1D
Move brown-green wire (V-1-BR-G) from C-6G to C-5E
Move black-slate wire (V-2-BK-S) from C-6H to C-5F

(q) Loosen the screws which mount the two selector magnet driver assemblies and the assembly with the 198248 card to the electrical service unit frame. Loosen the four posts which mount the C wiring field to the electrical service unit frame.

(r) Lift the assemblies and wiring field, and route the mode switch cable under the assemblies and through the opening at the rear of the C wiring field. Connect the wires as follows:

White-orange-blue (V-10-W-O-BL) to C-6E
White-black (V-12-W-BK) to C-1D
White-red (S-12-W-R) to C-2F

- (s) Lift the assemblies and route the cable of the 305446 signal regenerator assembly under the assemblies and through the opening at the rear of the C wiring field. Mount the 305446 assembly in the electrical service unit with the circuit card on the right, adjacent to the left edge of the selector magnet driver. Connect the wires to the C wiring field as follows:

White-yellow and brown-yellow to C-4G
White-green to C-2F
White-purple to C-4E
White-orange to C-6E
White-black to C-5F
White-blue to C-1F
White-red to C-5L
White-slate to C-2N
Tape the end of the red-green wire.

- (t) Connect the 326635 spark suppression network between terminals C-1K and C-2K.
- (u) Tighten the screws which mount the two selector magnet driver assemblies, the assembly with the 198248 card, and the signal regenerator assembly. Tighten the posts which mount the wiring field, and replace the cover on the wiring field.
- (v) Replace the set cover.
- (w) Servicing information is given in Specification 50486S.

