

**STARLINE****AMPLIFIER Models SA-\* INSTALLATION****INTRODUCTION**

This instruction sheet deals mainly with the physical installation of Models SA-\*. Amplifier Models SA-\*VI, having cast iron housings, are to be installed according to a customer's own standard procedure; however, a short description on the sealing of cast iron housings is given.

For all other information such as level setting and operational procedures on Starline amplifiers consult Jerrold Instruction Sheet 435-533-1B.

**INSTALLATION PROCEDURE****1.0 GENERAL**

- 1.1 Amplifiers are shipped from the factory with the amplifier module plugged into the connector chassis in the housing. Messenger clamp and bolt assemblies are factory-mounted on top of the housing for vertical installation of the unit below a messenger wire. Where the amplifier is to be installed in a different position on the messenger, the clamp and bolt assemblies may have to be relocated at the rear of the housing body; where surface, pole, or cross-arm mounting is required, the messenger clamps will have to be replaced by an auxiliary bracket.
- 1.2 All distribution line apertures where VSF fittings are to be installed have factory-mounted metal plugs, the trunk line apertures have plastic cap plugs, except in Model SA-6A where only the trunk line input aperture has a plastic cap plug. Do not remove the metal plugs on unused distribution line apertures; remove and discard only those plugs where fittings are to be installed. Never remove the metal plug in an SA-6A housing where in other models it would normally cover the trunk line output aperture. Do not remove the sealing plugs from the test apertures in the lid of the housing or the pipe plug from the pressurizing aperture of such housings specially ordered for this type of installation.

- 1.3 Be sure the amplifier location number has been entered on the chart in the lid of the housing. Be sure the A-C switching plug has been preset to the position required for the particular location (consult the lay-out diagram). Be sure you have the necessary type and quantity of VSF fittings and where required also the weatherboots and their sealing rings.
- 1.4 In whatever position the amplifier is to be mounted, be sure that with an open lid there will be enough clearance to a nearby telephone or other utility line.

**2.0 PREPARATION OF CABLES**

- 2.1 Cut the coaxial cables at the point where the amplifier is to be mounted. Remove enough of the lashing wires so you can form expansion loops on the cables. Then fasten the ends of the lashing wires to the messenger; use regular hardware type clamps.

Note: Loops on aluminum cables should have been preformed.

- 2.2 Prepare the cable ends as required for the type of VSF fittings to be installed in the housing (consult Jerrold Instruction Manual 435-345.1 on fittings and connectors). Where necessary, first slide the appropriate weatherboots over the cable ends.

**3.0 PREPARATION OF AMPLIFIER HOUSING**

- 3.1 At locations where a Model STE equalizer is to be connected to the amplifier through a Model VHH coupling connector, first install the equalizer before installing the VSF fittings in the amplifier housing. Where Model VHH is not used, install the equalizer at step 4.5 if necessary.
- 3.2 Remove the plastic cap plugs from the trunk line apertures and the threaded metal plugs from those distribution line apertures where VSF fittings are to be installed. Grease the threads on the fittings, then screw the fittings

into the apertures. Hand-tighten, then wrench-tighten on each fitting the hex nut adjacent to the aperture. Where required, push the weatherboot sealing ring over the fitting and up against the wall of the housing.

3.3 Slightly loosen the hex head bolts on the messenger clamps.

#### 4.0 MOUNTING THE HOUSING ON MESSENGER WIRE

4.1 Hold the closed housing so that you face "JERROLD" cast into the lid, then face the trunk line so that r-f signal flow is from left to right (consult the system layout diagram).

4.2 Loosely engage the messenger wire in the clamp assemblies; the clamps will pop open when forced onto the messenger. Close the hex head bolts on the clamps one turn only; this will permit moving the amplifier freely for proper positioning on the messenger.

4.3 Loosen all nine hex head bolts holding the lid to the housing body; open the housing and let the lid hang down freely.

4.4 Make sure the hex head machine screws and crown washers in the terminal assemblies are loosened so that cable center conductors will not be bent when feeding cable ends into the assemblies (see Fig. 2).

4.5 Where required, install equalizer Model STE at this stage (see Instruction Sheet 435-533-3).

4.6 Coat the exposed center conductors at the cable ends with silicone grease; on aluminum-sheathed cables also coat one inch of the sheath.

4.7 Connect each cable end completely before connecting the next cable end; connect all cable ends on one side of the housing before connecting those on the other side.

4.8 Feed the cable end all the way through the VSF fitting until the bare center conductor is visible beyond the crown washer in the terminal assembly.

4.9 Firmly tighten the hex head machine screw in the terminal assembly; use a spin-tight or a screwdriver.

4.10 Hand-tighten, then wrench-tighten first the clamp nut then the gland nut (where cable enters) on the VSF fitting. Recommended final torque on all VSF fittings is 10 to 15 ft.lbs. Where a weatherboot is used, slide the boot all the way over the fitting and over the sealing ring up to the wall of the housing.

4.11 The housing MUST now be closed and is not to be opened until electrical adjustments are to be made on the plug-in amplifier module itself. Before closing the lid, make sure the sealing gasket in the flange of the housing body and the r-f gasket in the flange of the housing lid are properly positioned in their grooves. Hand-tighten every other bolt until all nine bolts holding the lid are tightened; then wrench-tighten all nine bolts in the same manner to a recommended final torque of 5 (five) ft.lbs.

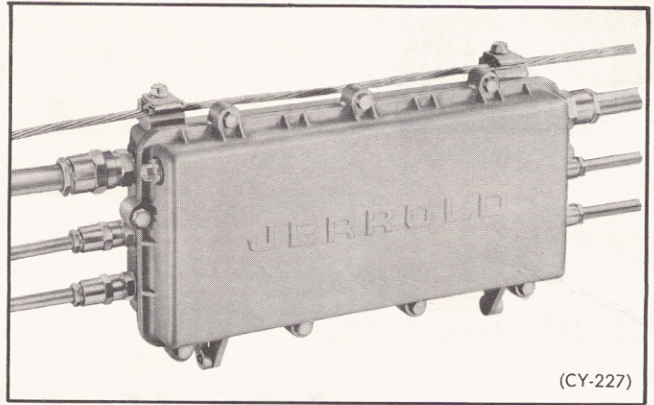


Fig. 1 Model SA-\* Vertical Mount below Messenger

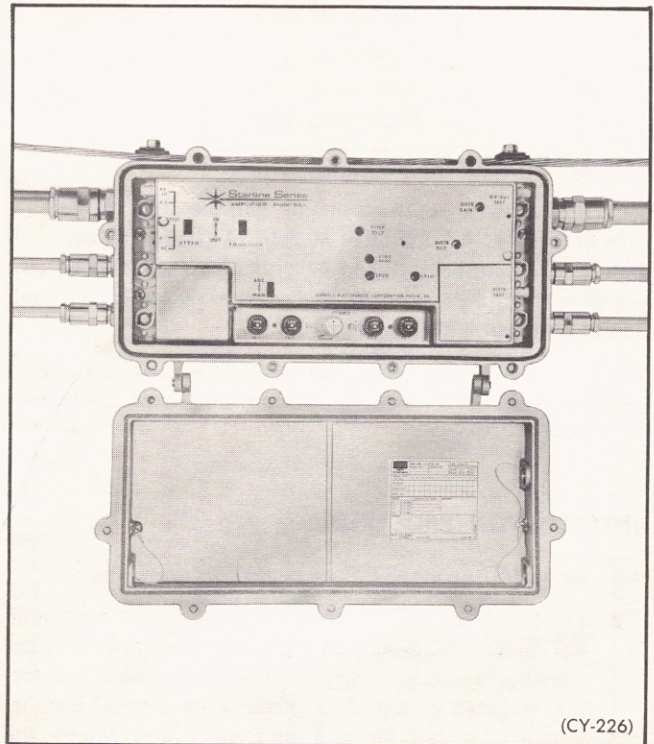


Fig. 2 Model SA-\* Open Housing showing Terminal Assemblies

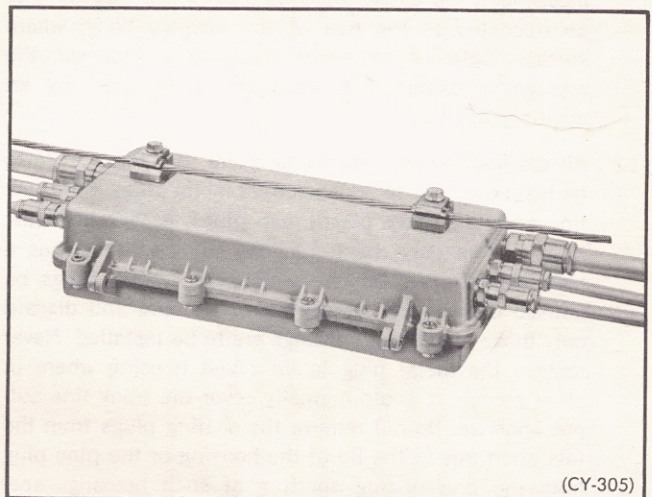


Fig. 3 Model SA-\* Horizontal Mount below Messenger

- 4.12 Position the housing on the messenger so that expansion loops of similar shape can be formed on the cables.
- 4.13 Hand-tighten, then wrench-tighten the hex head bolts on the messenger clamps; then lash all cables to the messenger wire at the point where they approach the wire.
- 4.14 Make sure the plugs on the three test apertures in the lid of the housing are firmly seated. On housings especially ordered for pressurized installations, make sure the pipe plug on the pressurizing aperture is firmly seated. Make sure the metal plugs on any unused distribution line apertures are firmly seated.

#### 5.0 MOUNTING THE HOUSING ON A UTILITY POLE

- 5.1 For mounting on a utility pole or its cross-arm, auxiliary bracket Model SPB-1 is required (see Fig. 4).
- 5.2 Remove the hex head bolts and the loose clamp jaws from the messenger clamp assemblies on the housing.
- 5.3 Using an Allen wrench, remove the two socket head cap screws from each clamp jaw on the housing.
- 5.4 Use these cap screws for mounting the bracket at the threaded holes in the rear wall of the housing; the long arm of the cruciform bracket must extend above the top of the housing (see Fig. 4).
- 5.5 Firmly wrench-tighten the cap screws.
- 5.6 Mount the housing on the pole or on the cross-arm so that when facing the trunk line, r-f signal flow will be from left to right. Commercial galvanized  $\frac{3}{8}$ " lag bolts about 4" long can be used through the two holes in the vertical arm of the bracket (see Fig. 5). For cross-arm mounting steel bolts, washers and nuts can be used instead of lag bolts.

- 5.7 From here on, connection of cables is done in the same manner as described in steps 4.3 to 4.11 and step 4.14.

#### 6.0 MOUNTING THE HOUSING WITH AUXILIARY HANGER BRACKETS ON MESSENGER

- 6.1 For mounting the amplifier below a messenger wire which carries a multiple cable line, auxiliary hanger bracket Model AHB-3 is required. Model AHB-3 consists of two individual brackets.
- 6.2 Remove the entire messenger clamp assemblies from the amplifier housing by first removing the hex head bolts and loose clamp jaws then the socket head cap screws and clamp jaws from the housing body.
- 6.3 In place of the messenger clamp assemblies, install the two brackets with the four slotted round head screws supplied.
- 6.4 Install the messenger clamp assemblies on the brackets. From here on, proceed as in steps 4.1 through 4.14.

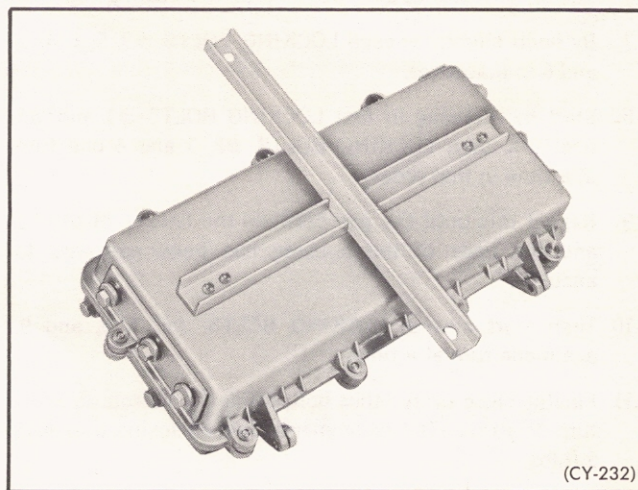


Fig. 4 Model SPB-1 Cruciform Bracket installed on SA-\* Housing

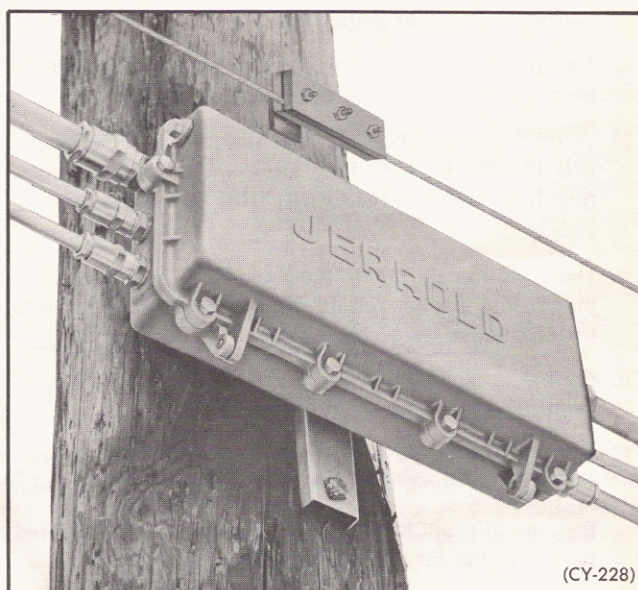


Fig. 5 Model SA-\* Vertical Mount on Utility Pole

#### 7.0 SEALING OF CAST IRON HOUSINGS

- 7.1 "B" Sealing Compound is used as a gasket for sealing cast-iron Starline amplifier housings. The compound is obtainable in rod form of approx.  $\frac{1}{4}$ " diameter.
- 7.2 First make sure the gasket grooves and flanges of housing body and lid are free from dust and oil.
- 7.3 Cut an appropriate length of sealant.
- 7.4 Start by first inserting the center section of the rod in the area LOCKING THREADS #7 and #8 of the groove in the housing body. The sealant should be stretched somewhat in this area (see Fig. 6) so that an even spread will be achieved when the housing is closed under pressure.
- 7.5 Then fill in the groove on both sides and on top of the housing until the two ends of the rod meet in the area below LOCKING THREAD #3.

- 7.6 Cut off any overlapping portions of the sealing rod.
  - 7.7 By hand slightly engage LOCKING BOLTS #2, 5, 1, 4, 3, and 6 in that order.
  - 7.8 Start by screwing in first LOCKING BOLTS #1 and #5 one turn, then LOCKING BOLTS #2, 3 and 4 one turn at a time in that order.
  - 7.9 Repeat this until the gap between the flanges of the lid and the body of the housing has been narrowed to about  $\frac{1}{8}$ ".
  - 7.10 Then start closing LOCKING BOLTS #6, 7, 8, and 9, again one turn at a time.
  - 7.11 Finally, close every other bolt, in clockwise rotation one turn at a time. The recommended final closing torque is 5 ft.lbs.
  - 7.12 Inspect the housing on all four sides where the flanges meet; an even overflow all around the flanges is a good indication of proper sealing (see Fig. 7).
  - 7.13 The square-head jack screws #1 and #2 facilitate opening a sealed housing when servicing is required.
  - 7.14 To open a sealed housing, first unscrew all nine LOCKING BOLTS; be sure they are completely disengaged from their associated LOCKING THREADS in the housing body.
  - 7.15 Then, alternately screw the two JACK SCREWS completely into the lid. The lid will become disengaged first from the top of the housing body.
  - 7.16 Pry the lid completely open; use a non-metallic instrument to prevent damage to the flanges.
  - 7.17 When resealing the housing, first remove all of the old sealing compound, then use a new piece of sealing rod.
- Be sure the JACK SCREWS are completely retracted back into the lid before attempting closure.

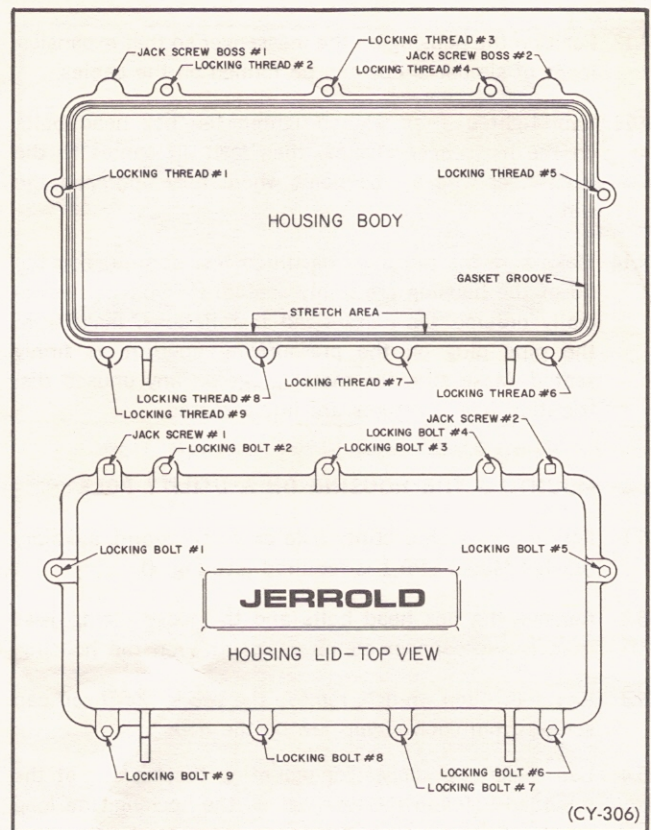


Fig. 6 Model SA-^VI Cast Iron Housing

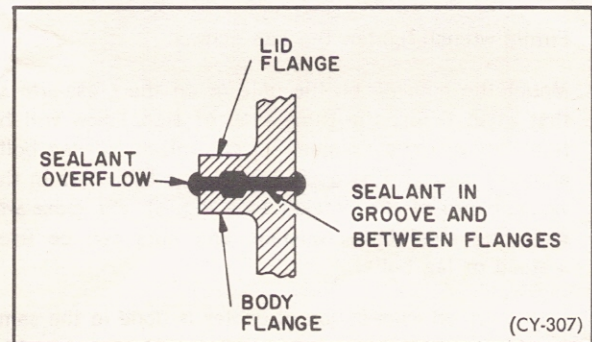


Fig. 7 Model SA-^VI Cross Section of Sealed Flanges on Cast Iron Housing

All data subject to change without notice.

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