

Service Information



Alternative service position for FL1 equipment

1. See the relevant chassis service manual for the removal of the back plate.
2. See the relevant chassis service manual for the service position for module servicing.
3. Service position for LSP or SSP repairs

Disconnect the connections L01, L02 and L03 between the LSP and SSP (see figure 1).

Loosen hooks A (3x) by pushing them down and sliding the LSP or the SSP backward.

Disconnect the various cables from the cable clamps.

Slide the LSP or the SSP backward until its middle position. In equipment in which the LSP consists of 2 parts the soldered connections of L61 and L65 may be damaged if the LSP is slid back too far.

Disconnect the L65 connection on the LSP if this consists of 2 parts.

Disconnect the S05 connection on the control panel (LED panel).

- Slide the LSP or the SSP further back. The control panel can be removed in the middle of the bottom plate. Now slide the LSP or the SSP fully out of the bottom plate.
- Put an ESD mat underneath the LSP or SSP. This ESD prevents damage to the SMD components due to contact with the table surface.
- Remove the antenna splitter from its holder, if this is present.
- Turn the LSP or SSP 180° counterclockwise.
- Put the LSP or SSP on its back (see figures 2 and 3) and place the SSP in such a way that the inlet for the antenna comes outside the table.
- Use extension cord set 4822 320 20209 to connect the LSP and the SSP (L01, L02 and L03).
- These extension cord sets can also be used for the connection of L61 and L65 and for the connection extension of the LED panel.

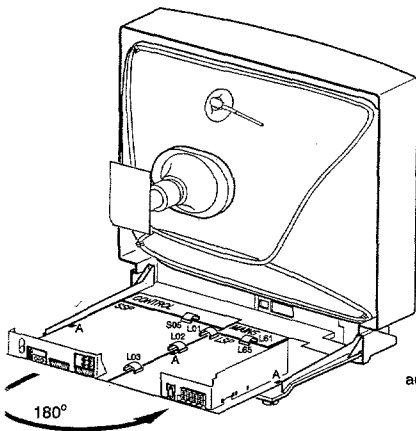


Fig. 1

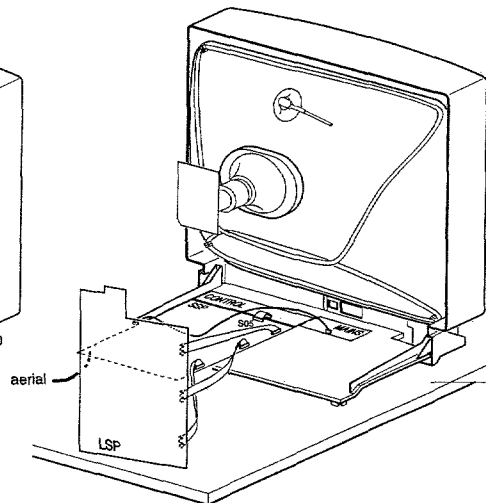


Fig. 2

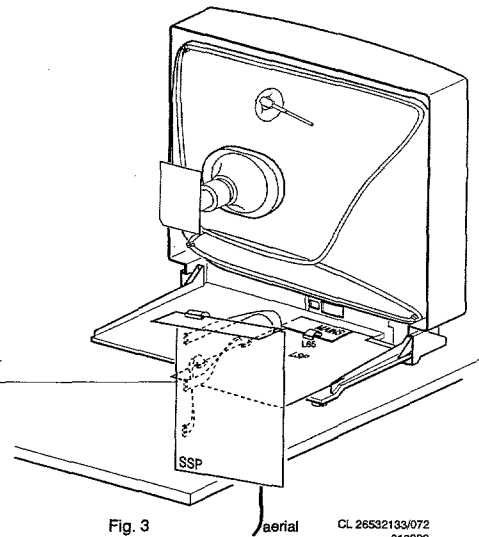


Fig. 3

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Alternative Serviceposition für FL1 Geräte.

1. Die Vorgehensweise für das Entfernen der Rückwand entnehmen Sie bitte der betreffenden Chassis Service-Anleitung.
2. Die Serviceposition für Modulenservice entnehmen Sie bitte der betreffenden Chassis Service-Anleitung.
3. Serviceposition für Reparaturen des LSP oder SSP
 - Lösen Sie die Verbindungen L01, L02 und L03 zwischen den LSP und SSP (siehe Abb. 1).
 - Lösen Sie den Haken A (3x) indem sie ihn nach unten drücken und LSP oder SSP nach hinten schieben.
 - Lösen Sie die diversen Kabel aus den Kabelklemmen.
 - Schieben Sie das LSP oder SSP nach hinten bis in die Mitte. Die Lötverbindungen von L61 und L65 können bei Geräten, bei denen das LSP aus zwei Teilen besteht, beschädigt werden wenn das LSP zu weit nach hinten geschoben wird.
 - Lösen Sie die Verbindung L65 auf dem LSP wenn diese aus zwei Teilen besteht.
 - Lösen sie die Verbindung S05 auf der Bedienungsplatine (LED Block).
 - Schieben Sie das LSP oder das SSP weiter nach hinten. Die Bedienungsplatine kann in der Mittelstellung von der Bodenplatte entfernt werden. Schieben Sie das LSP oder SSP jetzt vollständig aus der Bodenplatte.
 - Legen sie eine ESD Matte unter das LSP oder SSP. Diese ESD-Matte verhindert Schäden an den SMD-Teilen, die durch Kontakt mit der Tischoberfläche entstehen können.
 - Falls vorhanden entfernen Sie den Antennenteiler aus seinem Halter.
 - Drehen Sie das LSP oder SSP 180° gegen den Uhrzeigersinn.
 - Bringen Sie das LSP oder SSP jetzt auf seine Rückseite (siehe Abb. 2 und 3) und bringen daß SSP so an, daß der Antenneneingang außerhalb des Tisches fällt.
 - Verwenden Sie Verlängerungskabelsatz 4822 320 20209 um das LSP und das SSP aneinander zu verbinden (L01, L02 und L03).
 - Für die Verbindung von L61 und L65 und für das Verlängern der Verbindung des LED Blocks kann auch von diesem Verlängerungskabelsatz Gebrauch gemacht werden.

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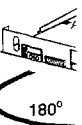
Alternatieve service positie voor FL1 apparaten

1. Voor het verwijderen van de achterwand zie de betreffende chassis service manual.
2. Voor de service positie voor module service zie de betreffende chassis service manual.
3. Service positie voor reparatie van het LSP of het SSP
 - Maak de verbindingen L01, L02 en L03 tussen het LSP en SSP los (zie Fig.1).
 - Maak de haken A (3x) los door deze naar beneden te drukken en het LSP of het SSP naar achter te schuiven.
 - Maak de diverse kabels los uit de kabelklemmen.
 - Schuif het LSP of het SSP naar achter tot zijn midden positie. De soldeer verbindingen van L61 en L65 kunnen, bij apparaten waarvan het LSP uit 2 delen bestaat, beschadigd worden als het LSP te ver naar achter wordt geschoven.
 - Maak de verbinding L65 op het LSP los als dit uit 2 delen bestaat.
 - Maak de verbinding S05 op het bedieningspaneel (LED blok) los.
 - Schuif het LSP of het SSP verder naar achter. Het bedieningspaneel kan verwijderd worden in de midden positie van de bodemplaat. Schuif het LSP of SSP nu compleet uit de bodemplaat.
 - Leg een ESD mat onder het LSP of SSP. Deze ESD mat voorkomt schade aan de SMD componenten door het contact met het tafel oppervlakte.
 - Indien aanwezig verwijder de antenne splitter van zijn houder.
 - Draai het LSP of SSP 180° tegen de klok in.
 - Plaats het LSP of SSP nu op zijn achterkant (zie Fig.2 en 3) en plaats het SSP zo dat de antenne ingang buiten de tafel valt.
 - Gebruik verlengkabelset 4822 320 20209 om het LSP en het SSP aan elkaar te verbinden (L01, L02 en L03).
 - Voor de verbinding van L61 en L65 en voor het verlengen van de verbinding van het LED blok kan ook gebruik gemaakt worden van deze verlengkabelset.

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Position alternative d'entretien/réparation pour appareils FL1

1. Pour retirer la paroi arrière, voir le manuel correspondant à l'entretien/réparation du châssis.
2. Pour la position d'entretien/réparation pour l'entretien/réparation du module, voir le manuel correspondant à l'entretien/réparation du châssis.
3. Position d'entretien/réparation pour la réparation du LSP ou du SSP
 - Détacher les connexions L01, L02 et L03 entre le LSP et le SSP (voir figure 1).
 - Détacher les crochets A (x3) en les poussant vers le bas et en faisant glisser le LSP ou le SSP vers l'arrière.
 - Détacher les câbles hors des griffes de serrage.
 - Faire glisser le LSP ou le SSP vers l'arrière jusqu'à la position moyenne. Les connexions soudées de L61 et L65 peuvent, au niveau des appareils dont le LSP comprend 2 parties, être endommagées si le LSP est glissé trop loin vers l'arrière.
 - Détacher la connexion L65 sur le LSP au cas où ce dernier se compose de 2 parties.
 - Détacher la connexion S05 sur le tableau de commande (bloc DEL).
 - Faire glisser le LSP ou le SSP plus loin vers l'arrière. Le tableau de commande peut être retiré dans la position moyenne de la plaque de fond. Ensuite faire glisser entièrement le LSP ou le SSP hors de la plaque de fond. Mettre une natte ESD sous le LSP ou le SSP. Cette natte ESD prévient l'endommagement des composants SMD de par le contact avec la surface de la table.
 - S'il est présent, retirer le diviseur d'antenne de son support.
 - Tourner le LSP ou le SSP de 180° dans le sens contraire des aiguilles d'une montre.
 - Placer le LSP ou le SSP sur son côté arrière (voir figures 2 et 3) et placer le SSP de façon que l'entrée d'antenne se trouve à l'extérieur de la table.
 - Utiliser le jeu de rallonges 4822 320 20209 pour relier le LSP et le SSP (L01, L02 et L03).
 - On peut faire également usage de ce jeu de rallonges pour la connexion de L61 et L65 et pour prolonger de la connexion du bloc DEL.

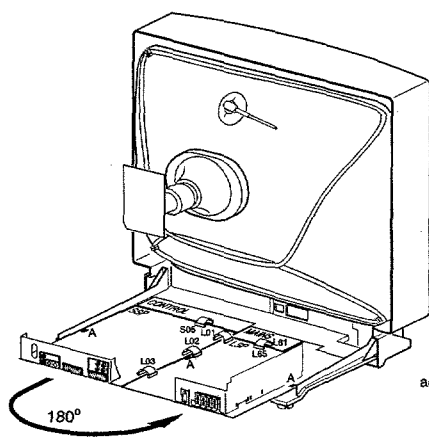


Fig. 1

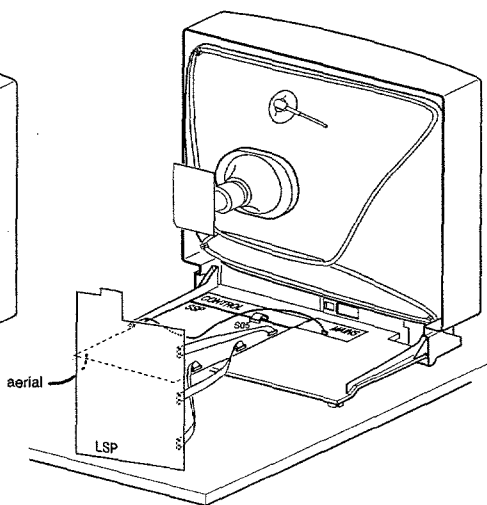


Fig. 2

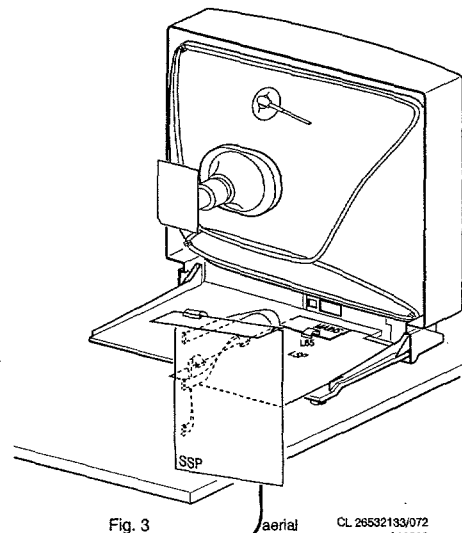


Fig. 3

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Posizione alternativa per il servizio assistenza degli apparecchi FL1

1. Per la rimozione del pannello posteriore si rimanda al relativo manuale Chassis Service.
2. Per la posizione di servizio che permette il servizio assistenza del modulo, si rimanda al relativo manuale Chassis Service.
3. Posizione di servizio per la riparazione del LSP o del SSP:
 - Scollegare LO1, LO2 e LO3 tra il LSP e il SSP (vedere fig. 1).
 - Sganciare A (3x) premendoli verso il basso e spostando il LSP o il SSP indietro.
 - Scollegare i cavi collegati ai morsetti.
 - Spingere il LSP o il SSP nella posizione centrale. In caso di apparecchi con un LSP che consiste due di parti, i giunti brasati del L61 e del L65 possono essere danneggiati quando il LSP viene spostato oltre il limite massimo consentito.
 - Scollegare il L65 sul LSP nel caso che quest'ultimo consista di due parti.
 - Scollegare il S05 sul pannello comandi (blocco LED).
 - Spingere il LSP o il SSP verso la parte posteriore. Ora il pannello comandi può essere rimosso dalla posizione centrale sulla piastra di fondo. Estrarre il LSP o il SSP completamente dalla piastra di fondo.
 - Stendere un tappeto ESD sotto il LSP o SSP in modo da evitare danni ai componenti SMD a causa del contatto con la superficie del tavolo.
 - Se presente, rimuovere il divisore dell'antenna dalla sede.
 - Girare il LSP o SSP di 180° nella direzione opposta al senso orario.
 - Posizionare il LSP o SSP sulla parte anteriore (vedere fig. 2 e 3) e posizionare il SSP in modo che l'entrata dell'antenna non sia posta sul tavolo.
 - Collegare il LSP ed il SSP (L01, LO2 e LO3) tramite il set di cavo di prolunga 4822 320 20209.
 - Questo set può anche essere utilizzato per il collegamento del L61 e del L65 e per il prolungamento del collegamento del blocco LED.

Service
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FL1.0
FL1.2
FL1.7

FL1.1
FL1.6
FL1-PTV

FL1

93.04

2.
2.1

Service Information

1. General FL1

1.1 Operational reliability micro SOPS

As from week 9225 the following components have been modified in order to increase the operational reliability of the micro SOPS:

- position 2260 is now 4.7nF 4822 122 31784
- position 6260 is now BAV32L 4822 130 80446
- position 6262 is now BYD34G 4822 130 82353
- position 7270 is now BD825 4822 130 41746

These components are also included in the SOPS repair kits.

If the SOPS repair kit is used for a repair these components should therefore also be replaced. In this case care should be taken in avoiding that the degaussing connections do not come into contact with D7270. The best method of achieving this is by laying them under the SSP-LSP connection of L01-S01 (except for the 33" sets).

1.2 TDA4680 modified

During production the TDA4680 has been modified to the V6 version (4822 209 31592). This modification was introduced in week 9226.

Remarks: In all sets from after production week 9115 only the V5 or V6 versions may be used.

1.3 Modifications on the SSP

During production in week 9228 position 9481 on the small signal panel has been modified to a BAT85 (4822 130 31983) in order to improve the power supply of the TDA4680. This diode is mounted with the cathode on IC7430 (TDA4680).

1.4 Modification on the LSP

During production in week 9249 position 7216 on the large signal panel has been modified to a selected BUT12AF (4822 130 63239). This modification has been introduced because with a normal BUT12AF it is possible that the SOPS will not start up quickly enough, placing the set in the protection mode.

1.5 Modification SAT box

- In week 9234 position 3333 (47k) has been added to the D2MAC panel. This pull-up resistor is necessary for the D2sync signal of the TPU. This is in order to avoid a TPU error. The code number of this resistor is 4822 116 52284 and mounted between pin 11 of IC7330 and L5350.

- In order to avoid a pop in the FSS module, in week 9238 a LLZ-C2V has been added on positions 6891, 6892, 6911 and 6912, code number 4822 130 81223.

- In week 9241 positions 1802 and 1808 on the FSS panel have been modified. This modification has been introduced because distortions which are caused by the transponders may occur in language 3 on ASTRA. The modified components are:

Position 1802 (7.2 MHz FC \geq +95kHz) 4822 242 81429
Position 1808 (7.2 MHz FC \geq -95kHz) 4822 242 81428

Position 1802 is marked blue and position 1808 is marked blue.

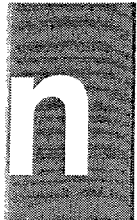
- In week 9301 position 3041 on the connector panel has been modified in 0.91 Ω (4822 111 30987) in order to improve the LNC power supply.

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2. FL1.0 AD

2.1 FL1.8 and FL1.9

From the start of production until week 9240 FL1.0 sets have been produced with FL1.8 and FL1.9 on the type plate. These are actually FL1.0 sets with a serial number beginning with AG20 or higher.

For these sets the FL1.0 AD service manual and the FL1.0 92.05 service information should be used.

The difference with previous FL1.0 sets is:

- less buttons on the operating panel (Personal choice, language A, B, C, D, E have been dropped) Personal choice is now in the main menu and language is contained in the installation menu.
- A different remote control (RC71XX).
- Different software (see service information FL1 93.01).
- KAM filter possibly present (see service information FL1.0 92.05)

2.2 Service manual correction

In diagram G in the chassis manual TS7005 and TS7006 have been incorrectly illustrated. These transistors should be connected to earth via the collector and not the emitter.

2.3 Correction to service manual 4822 727 18366

In the service manuals for the following sets (25SL5760, 25SL5766 28SL5770 and 28SL5776) the code numbers of item 23 have been reversed.

This should be as follows:

- 4822 458 30594 Grill left/right for 28" sets
- 4822 458 50355 Grill left/right for 25" sets

2.4 Correction to service manual 4822 727 19886

In this service manual the code number of the door (item 22) for the 21PT700A/19R has been omitted. This number should be: 4822 432 93119

2.5 Picture tube modification week 9311

During production in week 9311 the picture tubes of the 25" and 28" have been modified. The new picture tube has been introduced in sets with serial numbers beginning with AG26 or higher.

The modification is as follows:

Old:	A59EAK252X13	4822 131 20521
	A66EAK252X13	4822 131 20472
New:	A66EAK252X11	4822 131 20568
	A66EAK252X11	4822 131 20559

These new picture tubes are fully compatible with the old, the only difference is the connection on the deflection coil. This consisted of 2 connectors on the old picture tubes, and on the new picture tubes consists of only 1 connector. If an old picture tube is replaced by a new one then it is also necessary to replace the cable loom between the deflection coil and the LSP.

The code number for this cable is: 4822 321 62091

3. FL1.1 AC

3.1 Corrections to service manuals FL1.1 AA/AB/AC

In diagram G of these service manuals TS7005 and TS7006 are incorrectly illustrated. These transistors should be connected to earth via the collector and not the emitter.

3.2 Corrections to service manual 33ML8990 (4822 736 18873)

In this service manual the code number of the picture tube is incorrect. This picture tube should be an A80EBK221X33 with code number 4822 131 20453.

4. FL1.2 AB/BB

4.1 Introduction of new DNR specification

During production in week 9301 (week 9245 for /05 sets) new software was introduced. This software has been introduced in sets with a serial number beginning with AG22 or higher.

With this software (V52) it is possible to switch off the LFR and adjust the DNR per channel. The code number for this software is 4822 900 10337.

At the same time the bidirectional status on the SCART connection has been introduced with this modification.

4.2 Introduction new 36" picture tube

During production in week 9312 a new picture tube has been introduced in 36" sets. This new picture tube has been introduced in sets with serial numbers beginning with AG23 or higher.

The code number of the new picture tube is 4822 131 20563.

This new picture tube is fully compatible with the old one.

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5. FL1.6 AA

5.1 Corrections to chassis manual FL1.6 AA

- In diagram G of this chassis manual TS7005 and TS7006 are incorrectly illustrated. These transistors should be connected to earth via the collector and not the emitter.
- In diagram H the code number of the microprocessor panel has been omitted. The code number for this panel is 4822 212 30501 and the code number for the software is 4822 900 10333.

5.2 Correction to service manual 33ML8905

In this service manual the values for option code 1 are incorrect.

The correct values are:

33ML8905/00B/02B/06B/08B	154
33ML8905/05B	217
33ML8905/10B/13B/16B	218
33ML8905/19B	156

5.3 Flyback protection modification

During production the following components on the large signal panel have been modified in order to improve flyback protection:

- position 2547 is now 2.7nF 4822 122 33498
- position 3547 is now 5.1Ω 4822 051 10518

5.4 Introduction of new DNR specification

New software has been introduced during production in week 9301 (week 9245 for /05 sets). This software has been introduced in sets with a serial number beginning with AG03 or higher. With this software (V54) it is possible to switch off the LFR and adjust the DNR per channel. The code number for this software is 4822 900 10356.

5.5 New SSP with FQ916 front-end for /13 sets

During production a new small signal panel for the /13 sets has been introduced in week 9307. This panel has been introduced in sets with a serial number beginning with AG04 or higher. On this new panel the front-end has been replaced by an FQ916ME/BL (4822 210 10548) for the 25" and 28" sets, and by an FQ916DME/B (4822 210 10549) for the 33" sets.

Other components have also been modified with this front-end.

Removed

Position 2161
Position 3166
Position 4148

Added

Position 2124 22nF	4822 126 11544	
Position 2165 100nF	4822 122 31947	only for 33"
Position 2180 100nF	4822 122 31947	
Position 2181 22nF	4822 126 11544	
Position 4160 jumper	4822 051 10008	
Position 4161 jumper	4822 051 10008	
Position 9098 bridging wire		only for 33"
Position 9148 bridging wire		

Modified

Position 2166 is now 1000μF	4822 124 41829	
Position 3160 is now 10Ω	4822 052 10109	
Position 3162 is now 15Ω	4822 052 10159	
Position 3164 is now 1Ω	4822 051 10108	
Position 3165 is now 1Ω	4822 051 10108	
Position 3172 is now 15Ω	4822 052 10159	
Position 3211 is now 1Ω	4822 116 80176	
Position 3219 is now 560Ω	4822 051 10561	
Position 3220 is now 560Ω	4822 051 10561	
Position 3304 is now 360Ω	4822 051 10361	only for 25" and 28"
Position 3600 is now 300Ω	4822 051 10301	
Position 3603 is now 1Ω	4822 051 10108	
Position 3604 is now 2k7	4822 051 10272	

5.6 New picture tube in 28" sets

In week 9311 the picture tube in the 28" sets have been modified from an A66EAK252X43 (4822 131 20502) to an A66EAK252X44 (4822 131 20567). This modification has been introduced in sets with a serial number beginning with AG05 or higher.

During this modification the S-correction capacitor (C2520) on the LSP must also be modified to a 510nF 400V (4822 121 70281) at the same time.

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6. FL1.7 AA

6.1 Correction to service manual 25ML8300 etc
Item 10 in this service manual has an incorrect code number. This should be 4822 218 21084.

6.2 New software

During production new software (V59) has been introduced in weeks 9249 and 9311. This software has been introduced in sets with serial numbers beginning with AG01 and AG03 or higher.

This new software prevents conflicts between the software manager and the local tasks (PIP, menu, sound, ..) in NICAM sets.

The code number for this software is 4822 900 10333.

6.3 New picture tube in 28" sets

In week 9311 the picture tube in 28" sets has been modified from an A66EAK252X43 (4822 131 20502) to an A66EAK252X44 (4822 131 20567). This modification has been introduced in sets with a serial number beginning with AG02 or higher.

During this modification the S-correction capacitor (C2520) on the LSP must also be modified to a 510nF 400V (4822 121 70281) at the same time.

7. FL1-PTV

7.1 Replacing a projection tube

In order to prevent the deflection coil from dropping down following the replacement a projection tube the deflection coil should be firmly attached to the new projection tube. To achieve this adhesive 4822 390 30066 may be used. The adhesive should be applied to half of the tube's circumference (see Fig. 1), thereby coming into contact with the projection tube, the metal clamping ring and the plastic on the deflection coil.

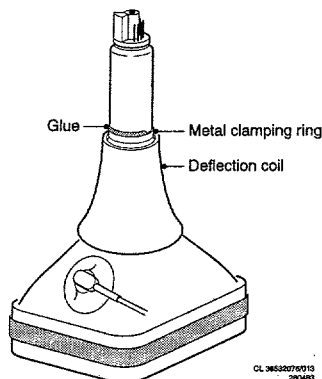


Fig. 7.1

7.2 Correction service manual FL1-PTV AA

In service manual FL1-PTV AA a part of diagram x is incorrectly illustrated. This part is shown correctly in Fig. 2.

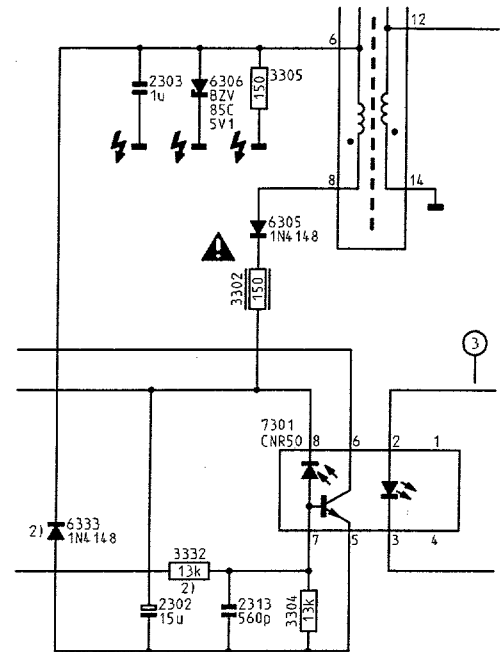


Fig. 7.2

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