

## SECTION 7 - TELETYPE

## 7.1 AN/UGC-20/25 GENERAL DESCRIPTION

The AN/UGC-20 teletypewriter set is a portable or fixed station equipment used to exchange typewritten page messages between ship or shore stations connected to a radio or wire telegraph channel. It is a compact unit with a three-speed gear shift (45.5, 50, or 74.1 baud). Keyboard: standard communication. Characters: english, 72 per line, sending and receiving. Motor: synchronous. Unit Code: 7.42. The AN/UGC-25 teletypewriter set is similar to AN/UGC-20 except that the AN/UGC-25 is used to receive only and is not equipped with a keyboard.

## 7.2 REFERENCE DATA

- a. Table of Technical Publications - Table 7-1
- b. Primary Power Requirements - Table 7-2
- c. Heat Dissipation - Table 7-3
- d. Unit Weight - Table 7-3

## 7.3 INSTALLATION REQUIREMENTS

a. Arrangement - The AN/UGC-20 and AN/UGC-25 are designed for installing on a shelf type foundation or similar flat surface of adequate strength. See Figure 7-1 for typical foundation details.

b. Outline and Mounting Dimensions:

- (1) AN/UGC-20 Figure 7-2
- (2) AN/UGC-25 Figure 7-3

c. Grounding Specifications - All bonding and grounding to be in accordance with Table 7-1 Item No. 1.

## 7.4 CABLE DIAGRAM AND CONNECTION DETAILS

- a. Elementary Connections - Figure 7-4
- b. Electronics Installation and Maintenance Standards - To be in accordance with Table 7-1 Item No. 7.
- c. Security Requirements - To be in accordance with Table 7-1 Item No. 6.

7.5 FIELD CHANGE REQUIREMENTS - See Table 7-1 Item No. 7.



ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
1	Mil. Std. 1310A (NAVY)	Shipboard Bonding and Grounding Methods for Electromagnetic Compatibility.
2	*RE-B2695939	Data List
3	*RE-B2695940	Pictorial System Diagram
4	*RE-B2695941	Primary Power Distribution Diagram
5	*RE-B2695942	Outline and Mounting Data
6	NAVSHIPSINSTR. 05510.33B	Installation Criteria for Shipboard Secure Electrical information Processing Systems
7	0967-000-0000	Electronics Installation and Maintenance Books
8	0981-052-8090	Data Pertaining to Electrical Shipboard Cable
9	*PRE-B2695944	Data List
10	*RE-B2695943	Outline and Mounting Data
11	0967-059-9010	Technical Manual - Teletypewriter Sets AN/UGC-20, AN/UGC-20X, AN/UGC-25, and AN/UGC-25X

\*These plans are not essential for installation but if available use as reference.

**TABLE OF TECHNICAL PUBLICATIONS**

TABLE 7-1

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-2/7-3

EQUIPMENT	VOLTAGE	CURRENT	POWER	REMARKS
50 Cycle Synchronous Motor	115 VAC, 50 Hz, Single Phase	Starting 9 Amp Running 2.4 Amp	107 WATTS	AN/UGC-20X AN/UGC-25X
60 Cycle Synchronous Motor	115 VAC, 60 Hz, Single Phase	Starting 9 Amp Running 1.9 Amp	65 WATTS	

TABLE OF PRIMARY REQUIREMENTS  
TABLE 7-2

EQUIPMENT	HEAT DISSIPATION	UNIT WEIGHT
50 Cycle Synchronous Motor	70 Watts	
60 Cycle Synchronous Motor	50 Watts	
AN/UGC-20	50 Watts	59 Lbs.
AN/UGC-25	50 Watts	50 Lbs.

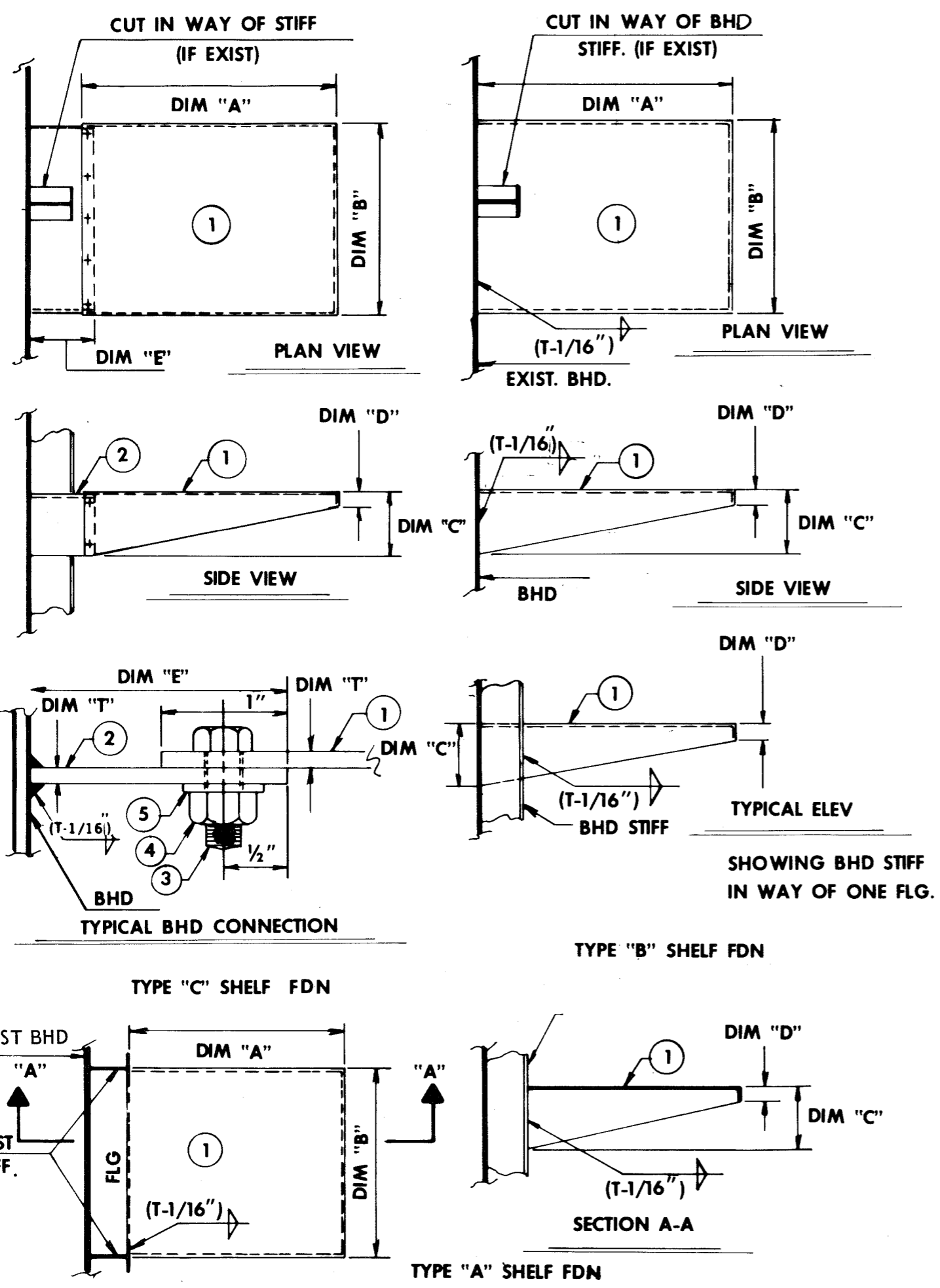
TABLE OF MISCELLANEOUS DATA  
TABLE 7-3

ORIGINAL

LIST OF MATERIAL QUANTITIES FOR ONE FDN					
PC NO.	NAME	NO. REQ'D	MATERIAL	MT'L SPEC.	REMARKS
1	PLT (SEE NOTE #2)	1	MED. STL	MIL-S-16113	TYPE "A"
1	PLT (SEE NOTE #2)	1	MED. STL	MIL-S-16113	TYPE "B"
1	PLT (SEE NOTE #2)	1	AL-61S-T6	QQ-A-327	
2	PLT (SEE NOTE #2)	1	MED STL	MIL-S-16113	
3	1/4" HEX H.D. BOLT	AS REQ'D	C.R.S.	MIL-B-857	TYPE "C"
4	1/4" HEX NUT			MIL-B-857	
5	1/4" DIA-FLAT WASHER			MIL-S-854	

NOTES:

- Thickness (Dim. "T" of material to be furnished on location).
- All variable dimensions and type of foundation to be specified on location.
- Foundation for AN/UGC-20 to be as follows:
  - Plating (7.65 #Plt. steel), 1/4" thick aluminum.
  - Type "B" shelf foundation.
  - For installation with stiffener in way of unit: Dimension "A" = 24" + depth of stiffener, dimension "B" = 18 1/2", dimension "C" = 8", dimension "D" = 1 1/2".
  - For installation with no stiffener interference: Dimension "A" = 24", dimension "B" = 18 1/2", dimension "C" = 8", dimension "D" = 1 1/2".
- Foundation for AN/UGC-25 to be as follows:
  - Plating (7.65 #Plt. steel), 1/4" thick aluminum.
  - Type "B" shelf foundation.
  - For installation with stiffener in way of unit: Dimension "A" = 20" + depth of stiffener, dimension "B" = 18 1/2", dimension "C" = 7", dimension "D" = 1 1/2".
  - For installation with no stiffener interference: Dimension "A" = 20", dimension "B" = 18 1/2", dimension "C" = 7", dimension "D" = 1 1/2".
- Size and location of mounting bolts for unit to be taken from equipment.



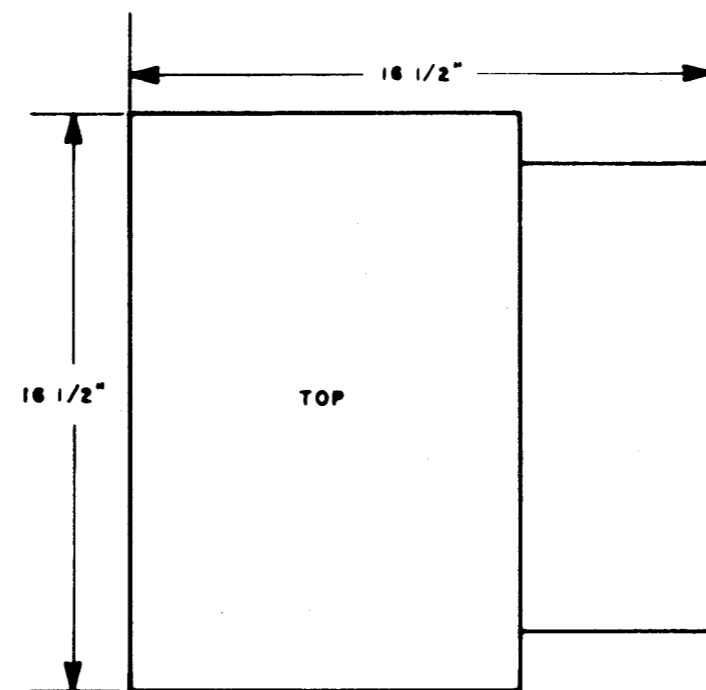
AN/UGC-20/25 TELETYPEWRITER  
TYPICAL FOUNDATION DETAILS

ORIGINAL

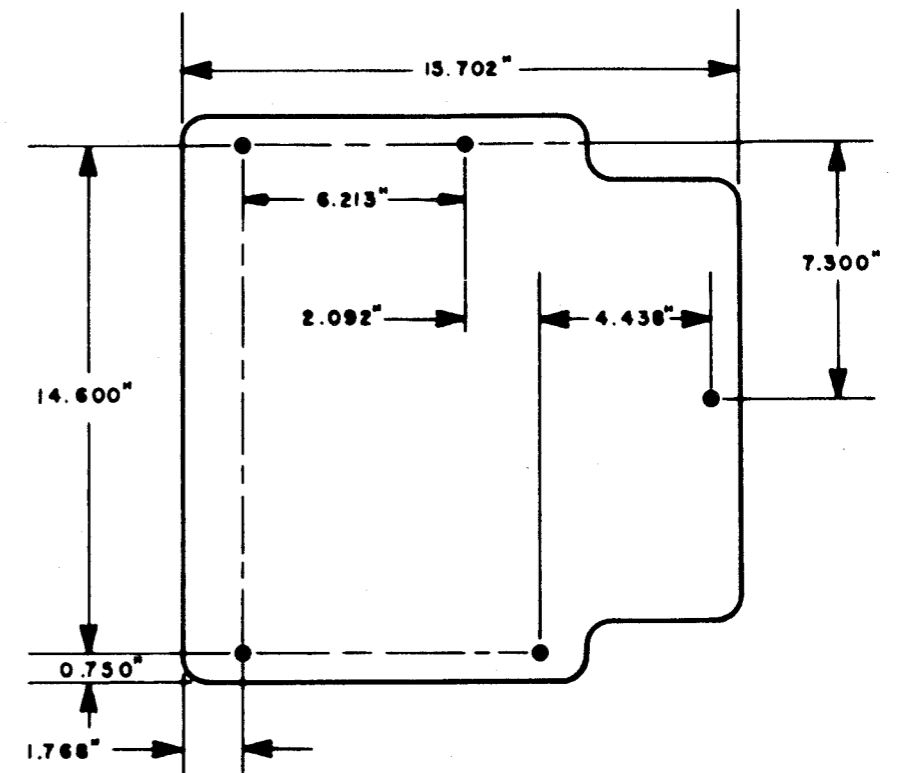
FIGURE 7-1

TELETYPE

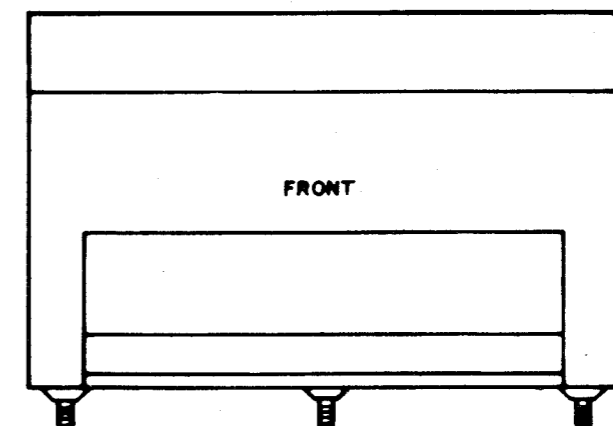
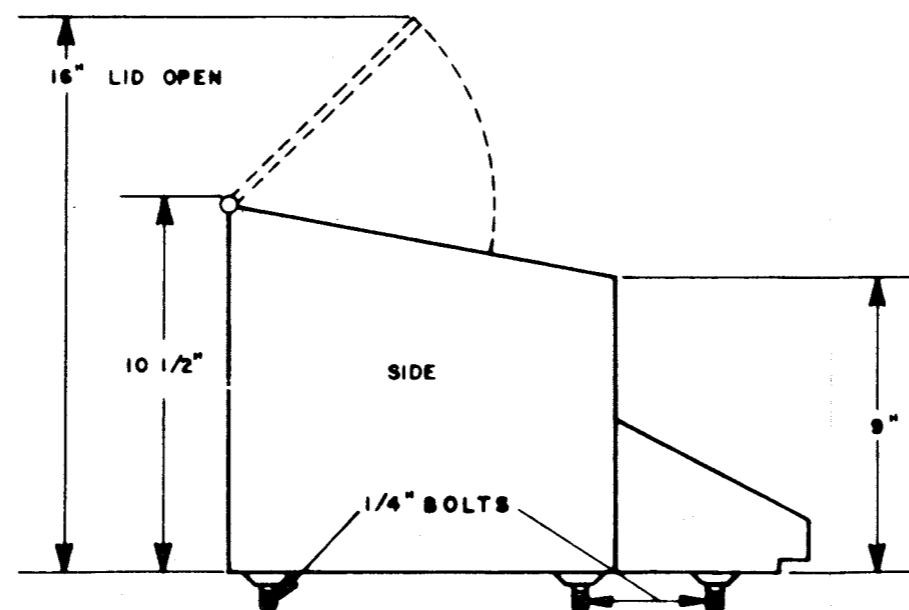
COVER



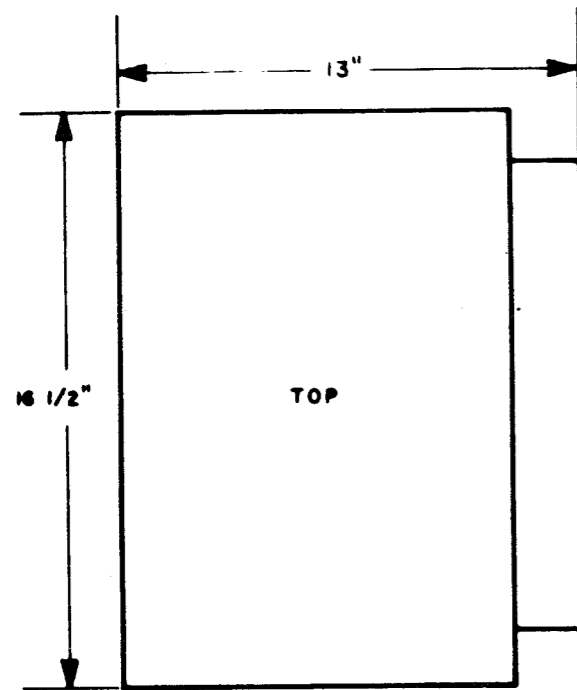
BASE



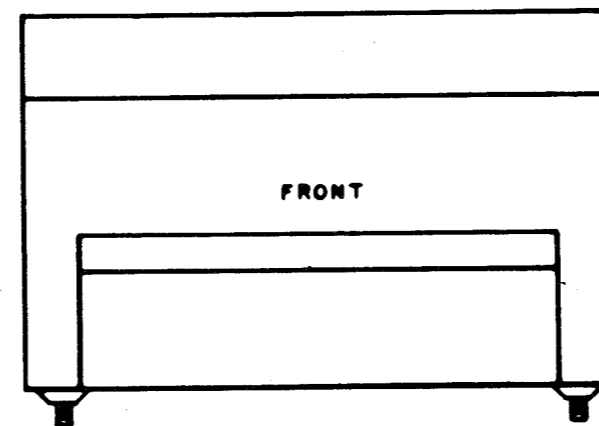
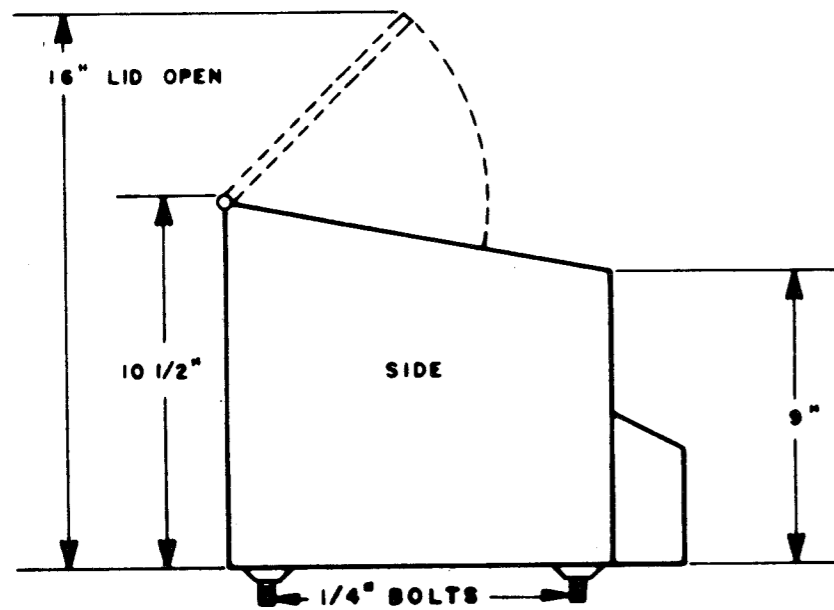
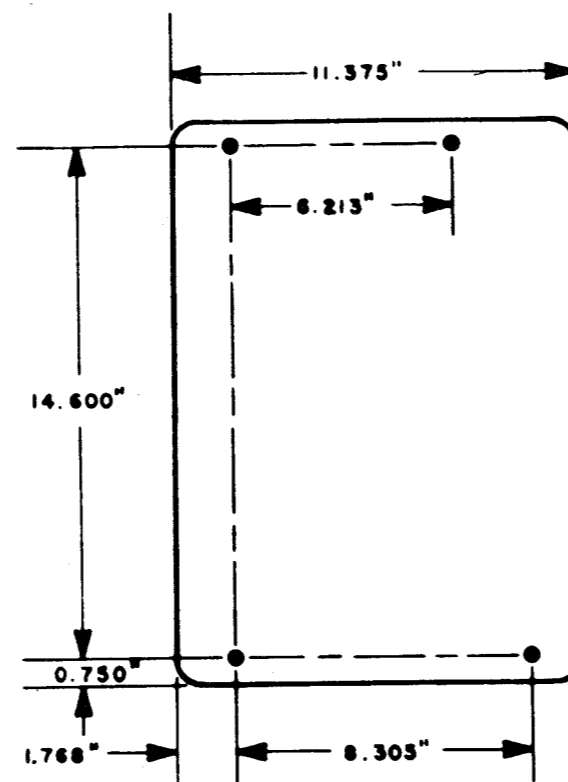
AN/UGC-20  
OUTLINE AND MOUNTING DIMENSIONS  
FIGURE 7-2



COVER

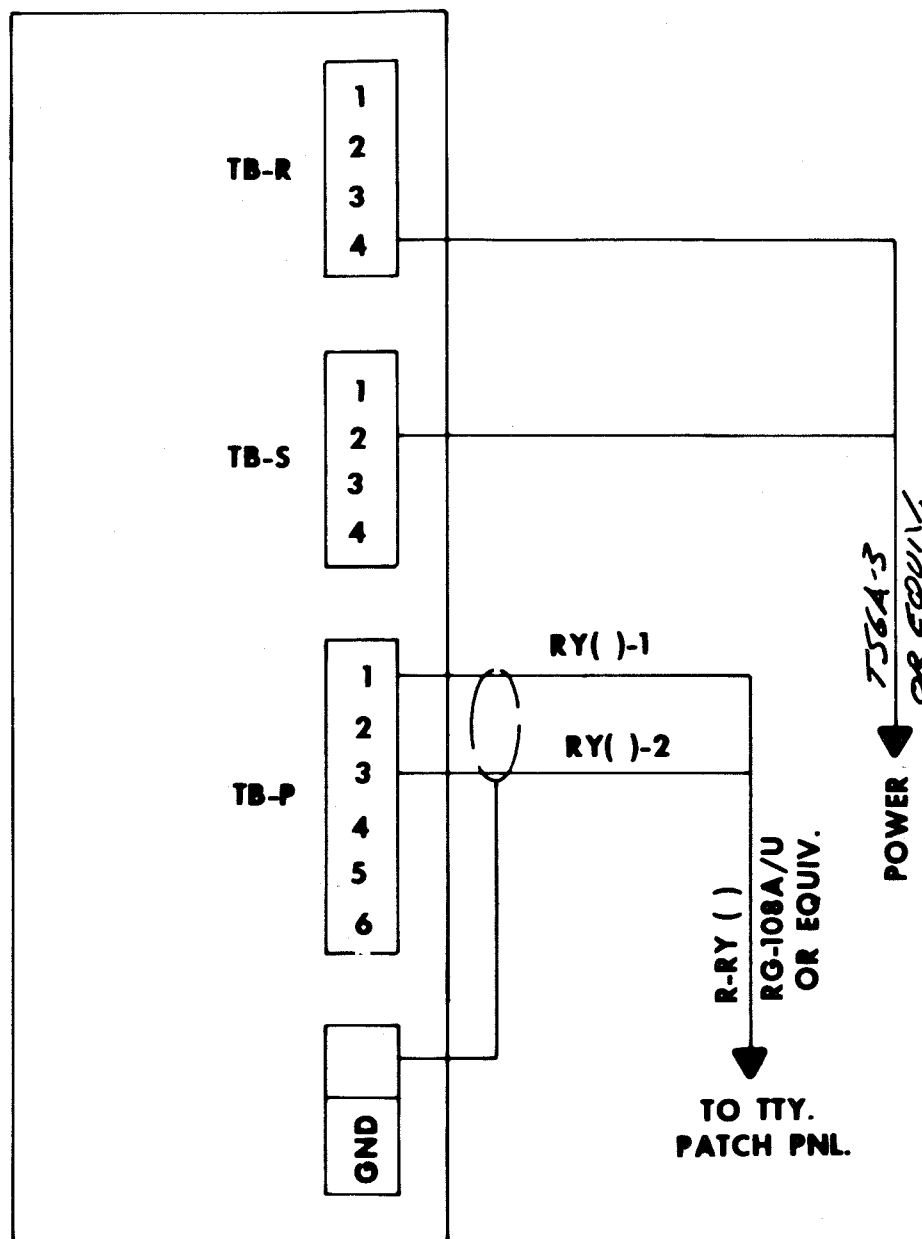


BASE



AN/UGC-25  
OUTLINE AND MOUNTING DIMENSIONS

FIGURE 7-3



**AN/UGC-20/25  
CABLE DIAGRAM  
FIGURE 7-4**



## SECTION 7 - TELETYPE

## 7.6 AN/UGC-6 GENERAL DESCRIPTION

The AN/UGC-6 teletypewriter series is a fixed station equipment, send-receive, message station with send receive page printer, tape punch, and tape reader units. It is equipped with a standard, english character keyboard. It is capable of 60, 75, and 100 WPM operation. The AN/UGC-6 teletypewriter series has a synchronous motor, a 7.42 unit code, and it prints 72 characters per line.

## 7.7 REFERENCE DATA

- a. Table of Technical Publications - Table 7-4
- b. Primary Power Requirements - Table 7-5
- c. Heat Dissipation - Table 7-6
- d. Unit Weight - Table 7-6

## 7.8 INSTALLATION REQUIREMENTS

- a. Arrangement - The AN/UGC-6 is designed to be mounted to the deck. See Figure 7-5 for typical foundation details.
- b. Outline and Mounting Dimensions - Figure 7-6
- c. Grounding Specifications - All bonding and grounding to be in accordance with Table 7-4 Item No. 2.

## 7.9 CABLE DIAGRAM AND CONNECTION DETAILS

- a. Elementary Connections - Figure 7-7
- b. Electronics Installation and Maintenance Standards - To be in accordance with Table 7-4 Item No. 14.
- c. Security Requirements - To be in accordance with Table 7-4 Item No. 16.

## 7.10 FIELD CHANGE REQUIREMENTS Figure 7-7



ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
1	0967-173-6010 0967-173-6020	Vol I & II Technical Manual for AN/UGC-6, AN/UGC-6A, AN/UGC-6X and AN/UGC-6AX
2	Mil. Std. 1310A (NAVY)	Shipboard Bonding and Grounding Methods for Electromagnetic Compatibility.
3	*RE-D-2690771	Primary Power Distribution Diagram
4	*RE-H-2690978	Outline and Mounting Data
5	*RE-H-2692477	Primary Power Distribution Diagram
6	*RE-F-2692478	Pictorial System Diagram
7	*RE-B-2692555	Outline and Mounting Data
8	*RE-B-2692556	Primary Power Distribution Diagram
9	*RE-B-2692557	Pictorial System Diagram
10	*RE-B-2692560	Pictorial System Diagram
11	*RE-B-2692563	Pictorial System Diagram

\*These plans are not essential for installation but if available use as reference.

TABLE OF TECHNICAL PUBLICATIONS  
TABLE 7-4 (Continued)

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-4

ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
12	*RE-F-2692478	Pictorial System Diagram
13	*RE-H-2692477	Primary Power Distribution Diagram
14	0967-000-0000	Electronics Installation and Maintenance Books
15	0981-052-8090	Data Pertaining to Electrical Shipboard Cable
16	NAVSHIPSINSTR. 05510.33B	Installation Criteria for Shipboard Secure Electrical Information Processing Systems

\*These plans are not essential for installation but if available use as reference.

TABLE OF TECHNICAL PUBLICATIONS  
TABLE 7-4

ORIGINAL

7-12

EQUIPMENT	VOLTAGE	CURRENT	REMARKS
AN/UGC-6 TTY Series	115 VAC, 60 HZ Single Phase	209 Watts	

TABLE OF PRIMARY POWER REQUIREMENTS  
TABLE 7-5

EQUIPMENT	HEAT DISSIPATION	UNIT WEIGHT	REMARKS
AN/UGC-6 TTY Series	123 Watts	267 LBS.	

TABLE OF MISCELLANEOUS DATA  
TABLE 7-6

TABLE 7-7

NAVSHIPS 0967-306-1010

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. AN/UGC-6 All	0285-052-9000	Provides for full duplex operation of equipments and eliminates line relays	FA-6		Four signal lines will be coming into the equipment.
2. AN/UGC-6	0285-058-8100	Installation of 194028 Mod. kit (converts equipment from 7.42 unit code to 7.00 unit code)	FA-3	F5815-981-3249	
3. AN/UGC-6 Ser. No. LP6 and UP	0285-073-8900	Installation of D193936 (MK-764/UG) modification kit	FA	F 5815-066-4354	
4. AN/UGC-6 All	0285-075-0400	Incorporate a separable connector in the wiring to the back space - magnet L3400	FA-1		Inspection of the wiring between the perforator back-space magnet, L3400 and TB3102 will disclose that a separable plug and receptacle have been installed in the wiring to the back-space magnet L3400.

FIELD CHANGE REQUIREMENTS  
TABLE 7-7 (Continued)

TELETYPE

ORIGINAL

7-14

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
5. AN/UGC-6 Serial No. 1 to 20	0967-972- 8040	Modified teletypewriter set with adapter incorporation of factory Field service orders	FA		Change number stamped on Field Change accomplished plate.
6. AN/UGC-6		Cancelled			
7. AN/UGC-6 units with front panel control panel for the aux- iliary reper- forator	0967-062- 6050	Elimination of person- nel hazard	FA- $\frac{1}{2}$		Presence of an orange lead on terminal 4 and a blue lead on terminal 5 of switch 155023.
8. AN/UGC-6 All	0967-062- 6050	Teletypewriter adapter clear reduction function code	FA-1		Checking electrical continuity between card jacks J12-7 and J-40B-10
9. AN/UGC-6 All equipments modified with adapter		Teletypewriter sets modified with adapter for AN/USQ-20(v) bypass thermal relay	FA-2		Presence of a 250770 printed circuit card in card jack J13C
10. AN/UGC-6	0967-062- 6060	Modified with AN/USQ-20 adapter retention of filter assembly	FA- $\frac{1}{2}$		Two screws have been inserted into the filter holder frame thereby securing the frame to the filter housing.

FIELD CHANGE REQUIREMENTS  
TABLE 7-7 (Continued)

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-7

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. AN/UGC-6A		Same as FC #2AN/UGC-6			
2. AN/UGC-6A		Same as FC #3 AN/UGC-6			
3. AN/UGC-6A		Same as FC #4 AN/UGC-6			
4. AN/UGC-6A		Cancelled			
5. AN/UGC-6A 6. AN/UGC-6A		Same as FC #7 AN/UGC-6 Same as FC #11 AN/UGC-6			
1. AN/UGC-6AX		Same as FC #2 AN/UGC-6			
2. AN/UGC-6AX		Same as FC #3 AN/UGC-6			
3. AN/UGC-6AX		Same as FC #4 AN/UGC-6			
4. AN/UGC-6AX		Cancelled			
6. AN/UGC-6AX 5. AN/UGC-6AX		Same as FC #11 AN/UGC-6 Same as FC #7 AN/UGC-6			

FIELD CHANGE REQUIREMENTS  
TABLE 7-7 (Continued)

ORIGINAL

7-16



FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. AN/UGC-6B		Same as FC #2 AN/UGC-6			
2. AN/UGC-6B		Same as FC #3 AN/UGC-6			
3. AN/UGC-6B		Same as FC #4 AN/UGC-6			
4. AN/UGC-6B		Cancelled			
5. AN/UGC-6B 6. AN/UGC-6B		Same as FC #7 AN/UGC-6 Same as FC #11 AN/UGC-6			
1. AN/UGC-6C		Same as FC #2 AN/UGC-6			
2. AN/UGC-6C		Same as FC #3 AN/UGC-6			
3. AN/UGC-6C		Same as FC #4 AN/UGC-6			
4. AN/UGC-6C		Cancelled			
6. AN/UGC-6C 5. AN/UGC-6C		Same as FC #11 AN/UGC-6 Same as FC #7 AN/UGC-6			

FIELD CHANGE REQUIREMENTS  
TABLE 7-7 (Continued)

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-7

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. AN/UGC-6X		Same as FC #2 AN/UGC-6			
2. AN/UGC-6X		Same as FC #3 AN/UGC-6			
3. AN/UGC-6X		Same as FC #4 AN/UGC-6			
4. AN/UGC-6X		Cancelled			
5. AN/UGC-6X		Same as FC #7 AN/UGC-6			
6. AN/UGC-6X		Same as FC #11 AN/UGC-6			
1. AN/UGC-6K		Same as FC#11 AN/UGC-6			

FIELD CHANGE REQUIREMENTS  
TABLE 7-7

ORIGINAL

7-18

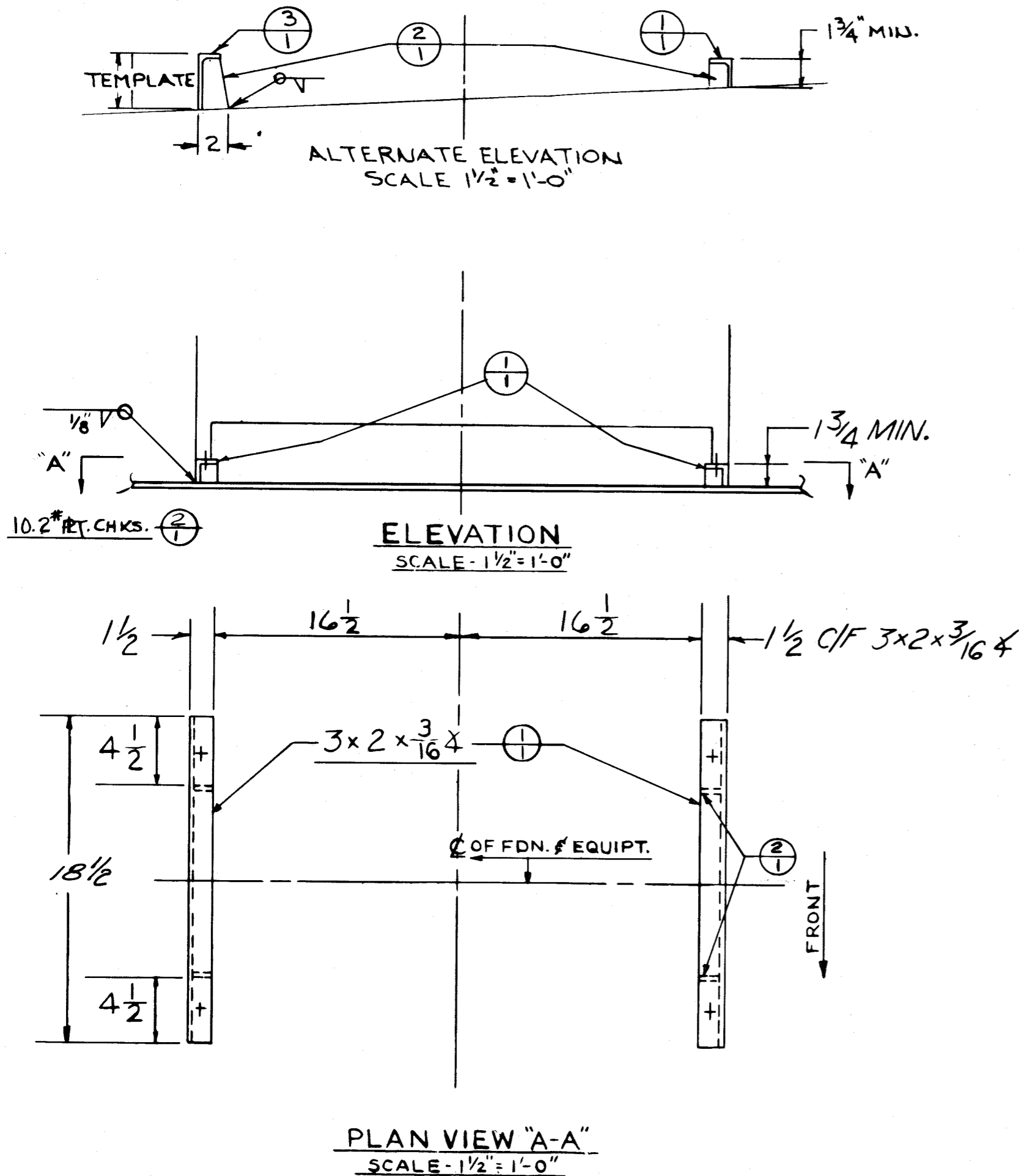
LIST OF MATERIAL - QUANTITIES FOR ONE FOUNDATION					
PIECE NO.	NAME	NO. REQ'D.	MATERIAL	MT'L. SPEC.	REMARKS
TYPE "ST"					
1	3X2X3/16 Angle	2	M. STL.	Mil-S-20166	C/F
2	10.2 # Plt. Chk.	4	M. STL.	Mil-S-16113	
3	6X2X8.20 # Channel	1	M. STL.	Mil-S-20166	C/F
TYPE "AL"					
1	3X2X3/16 Angle	2	AL	QQ-A-270	C/F
2	1/4 Plt. Chk.	4	AL	QQ-A-327	
3	6X1.9X3.09 Channel		AL.	5086-H112	

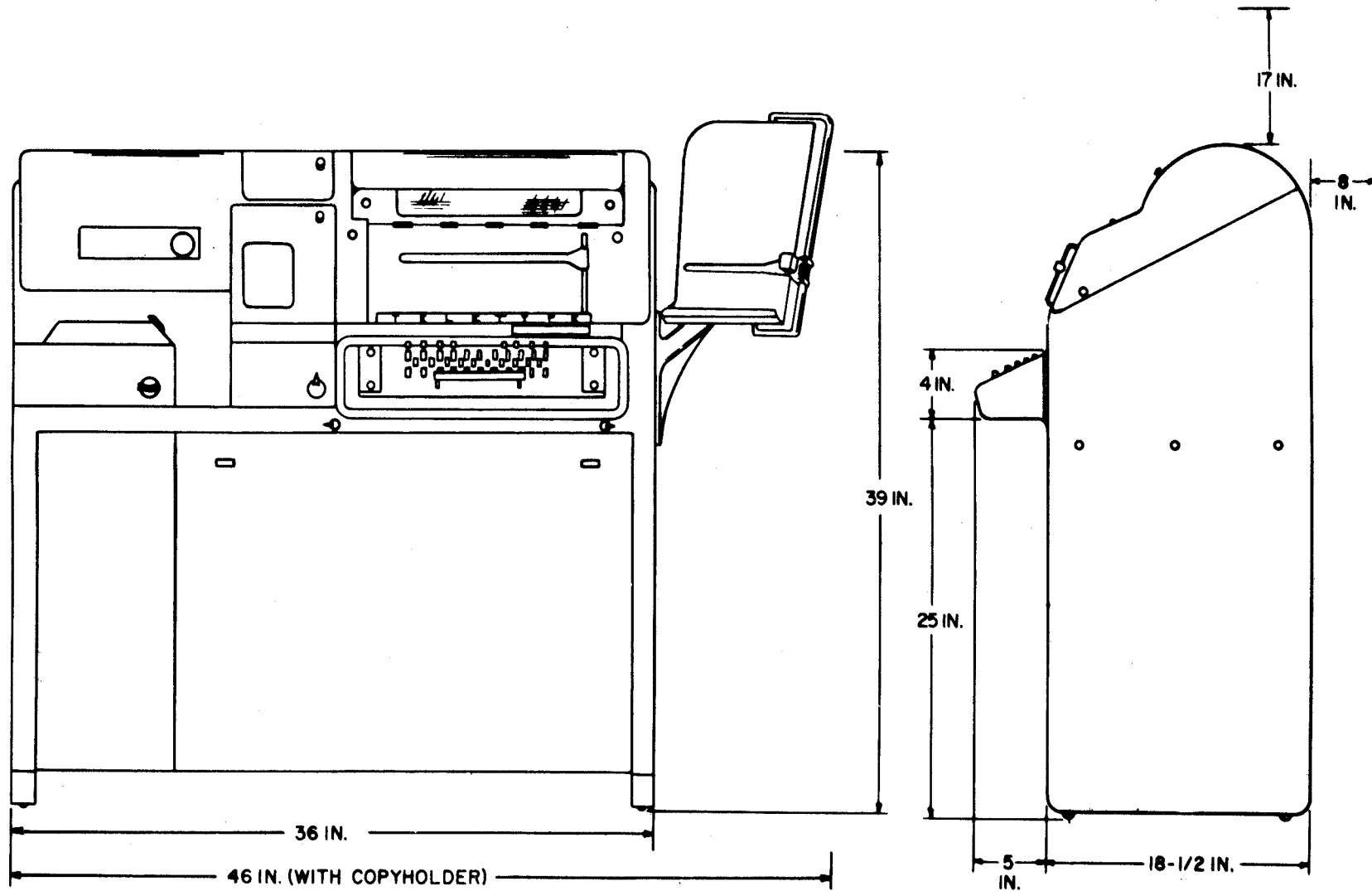
NOTES

1. Mounting holes to be drilled at installation to suit equipment.
2. This plan is applicable for installations on steel decks only.
3. Foundation to be made level with base line of ship.
4. All welds to be in accordance with General Specification #S9-1.
6. Indicate steel for type "ST" and aluminum for type "A".

ORIGINAL

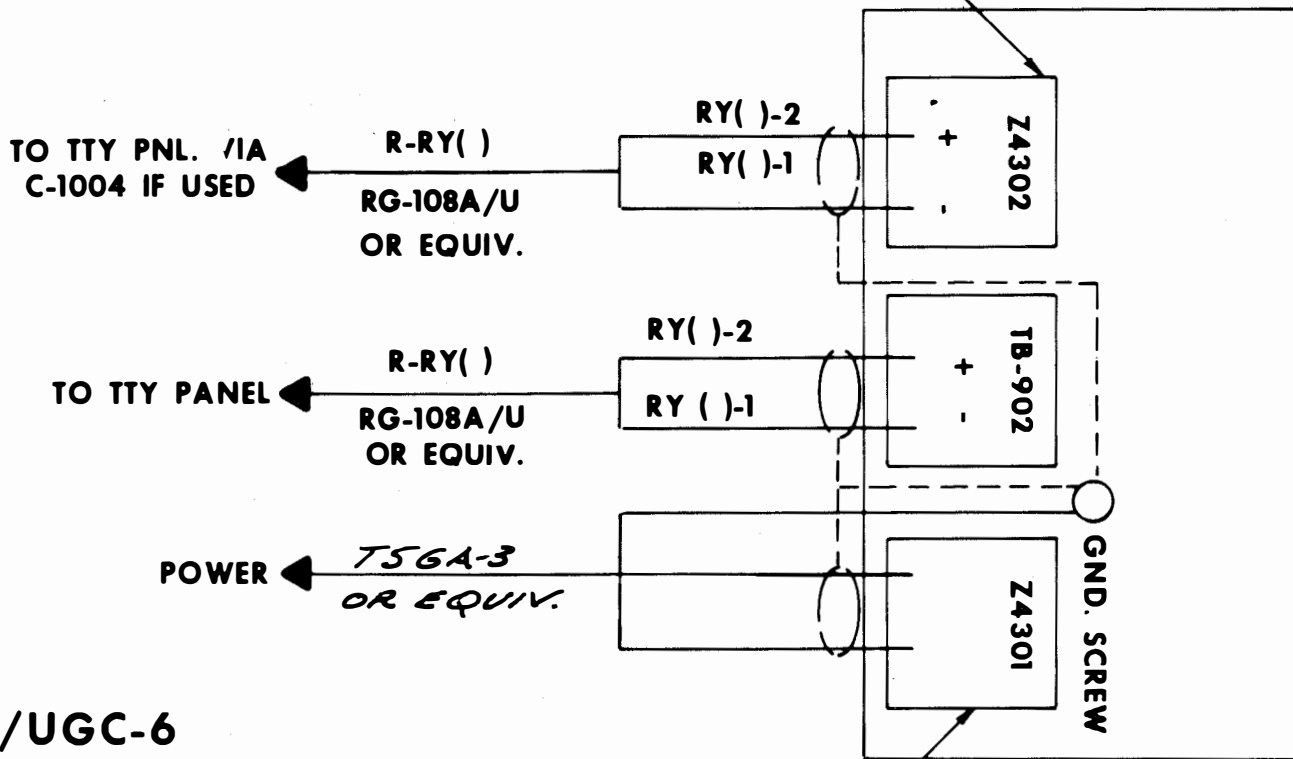
AN/UGC-6 TELETYPEWRITER  
TYPICAL FOUNDATION DETAILS  
FIGURE 7-5





**AN/UGC-6  
OUTLINE AND MOUNTING DIMENSIONS  
FIGURE 7-6**

PART NO. 151989  
STOCK NO. N5915-370-1182



PART NO. 154655  
STOCK NO. N5915-606-533

AN/UGC-6  
CABLE DIAGRAM  
FIGURE 7-7



## SECTION 7 - TELETYPE

## 7.11 TT-187/UG-TT-187A/UG - GENERAL DESCRIPTION

The TT-187/UG and TT-187A/UG teletypewriter distributor-transmitter set translates code combinations that have been perforated in a paper tape into electrical impulses and transmits those impulses in the form of a five unit, start-stop permutation code to one or more receiving stations. The TT-187/UG and TT-187A/UG are capable of 60, 75, 100 WPM transmitting speed. The TT-187/UG and TT-187A/UG units are equipped with a synchronous motor.

The TT-187A/UG is similar to the TT-187/UG except it has a series governed motor.

## 7.11 REFERENCE DATA

- a. Table of Technical Publications - Table 7-8
- b. Primary Power Requirements - Table 7-9
- c. Heat Dissipation - Table 7-10
- d. Unit Weight - Table 7-10.

## 7.13 INSTALLATION REQUIREMENTS

- a. Arrangement - The TT-187/UG and TT-187A/UG are designed for installation on a shelf type foundation or similar flat surface of adequate strength. See Figure 7-8 for typical foundation details.
- b. Outline and Mounting Dimensions - Figure 7-9
- c. Grounding Specifications - All bonding and grounding to be in accordance with Table 7-8 Item No. 2.

## 7.14 CABLE DIAGRAM AND CONNECTION DETAILS

- a. Elementary Connections - Figure 7-10
- b. Electronics Installation and Maintenance Standards - To be in accordance with Table - 7-8 Item No. 6.
- c. Security Requirements - To be in accordance with Table 7-8 Item No. 7.

## 7.15 FIELD CHANGE REQUIREMENTS - Figure 7-11





ORIGINAL

ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
1	0967-061-0000	Technical Manual for Teletypewriter Distributor-Transmitters TT-187/UG and TT-187A/UG
2	Mil. Std. 1310A (NAVY)	Shipboard Bonding and Grounding Methods for Electromagnetic Compatibility
3	*RE-D-2692453	Outlines and Mounting Data
4	*RE-D-2692454	Interconnecting Wiring Diagram
5	0981-052-8090	Data Pertaining to Electrical Shipboard Cable
6	0967-000-0000	Electronics Installation and Maintenance Books
7	NAVSHIPSINST. 05510.33B	Installation Criteria for Shipboard Secure Electrical Information Processing Systems

\*These plans are not essential for installation but if available use as reference.

**TABLE OF TECHNICAL PUBLICATIONS**

TABLE 7-8

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-8

TELETYPE

ORIGINAL

EQUIPMENT	VOLTAGE	CURRENT	POWER	REMARKS
TT-187/UG A.C. Motor (PD-17A/U)	115 VAC, 60 Hz , Single Phase	Starting 9 Amps. Running 1.85 Amps.	65 Watts	No Load 23.7% PF Full Load 38.5% PF
TT-187A/UG Miniaturized A.C. Motor (LMU-19)	115 VAC, 60 Hz, Single Phase	Starting 5 Amps. Running (No Load) 1.05 Amps. Full Load 1.25 Amps.		

TABLE OF PRIMARY POWER REQUIREMENTS  
TABLE 7-9

EQUIPMENT	HEAT DISSIPATION	UNIT WEIGHT	REMARKS
TT-187/UG	50 Watts	36 Lbs.	
TT-187A/UG	50 Watts	24 Lbs.	

TABLE OF MISCELLANEOUS DATA  
TABLE 7-10

NAVSHIPS 0967-306-1010

TABLE 7-9/7-10

7-26

ORIGINAL

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. TT-187/UG All	0285-058-8100	Installation of 194031 Mod. kit (converts equipment from 7.42 unit code to 7.00 unit code.	FA	F5815-008-3250	
2. TT-187/UG All	0285-075-2800	Installation of 195442 (MK-811/UG) and modification kits to provide 3 speed gear-shift for model 28 bases (LXD).	FA	F 5815-051-3823	
1. TT-187A/UG All		Same as FC#1 TT-187/UG			
1. TT-187B/UG		Installation of 199913 Mod. Kit (converts e equipment from 7.00 unit code to 7.42 unit code.	FA	F5815-981-3252	
2. TT-187A/UG  2. TT-187B/UG	0967-173-8050	Normal input Keying Kit  Same as FC #2 TT-187A/UG	FA-6		Installation of decal on front panel.

FIELD CHANGE REQUIREMENTS  
TABLE 7-11

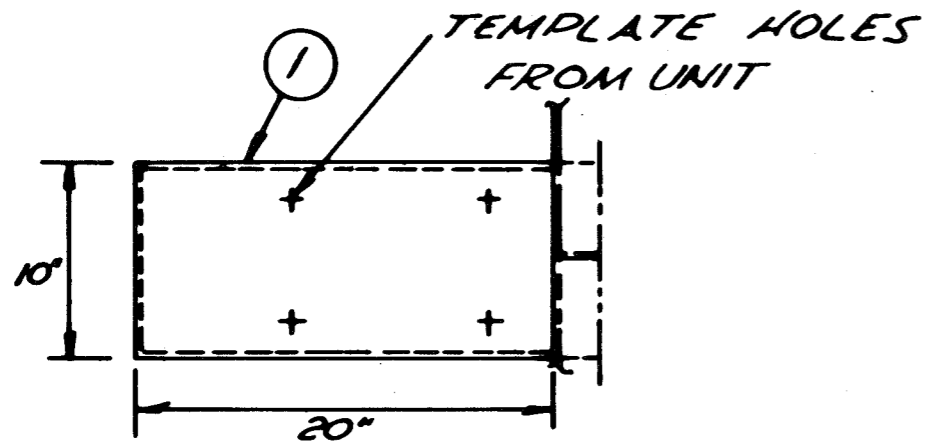
TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-11

7-27/7-28

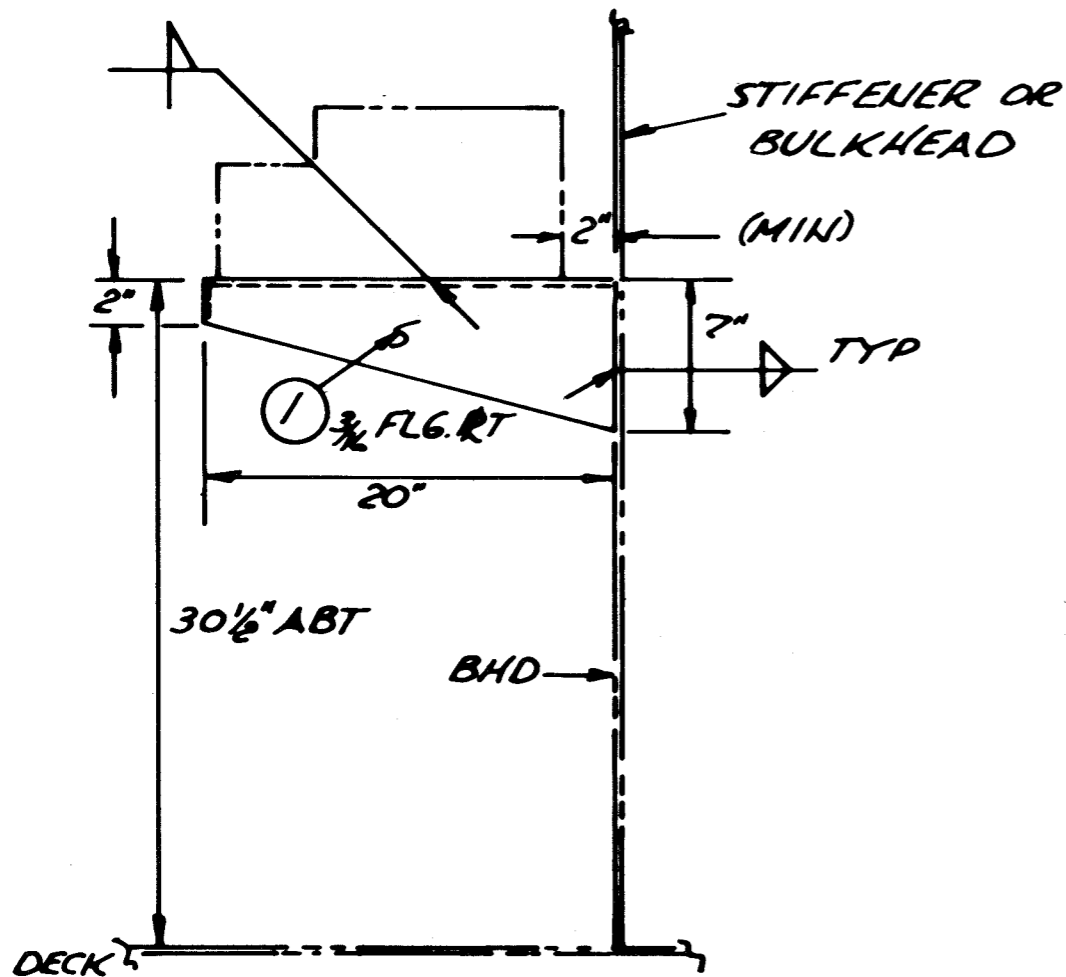




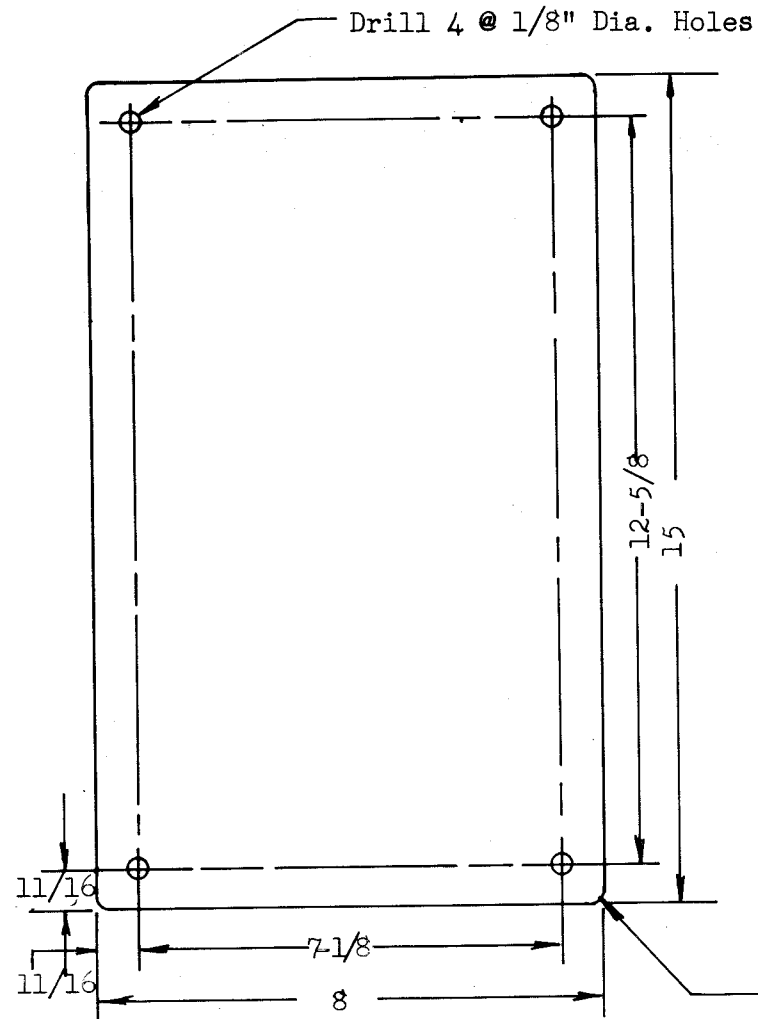
LIST OF MATERIAL - QUANTITIES FOR ONE FOUNDATION					
Pc. No.	NAME	No. Req'd.	Material	Mt'l. Spec.	Remarks
1	7.65 # Plt.	1	M. Steel	M11.S 16113	

NOTES:

1. Material may be substituted to suit installation on aluminum bulkheads.
2. All welds to be 100%.



TT-187/UG AND TT-187A/UG  
TYPICAL FOUNDATION DETAILS  
FIGURE 7-8

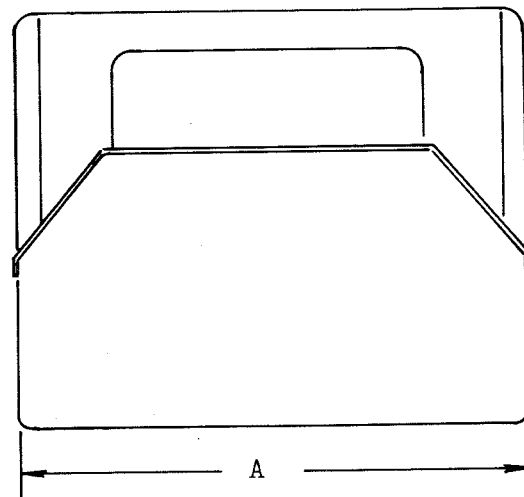


OUTLINE AND MOUNTING DIMENSIONS

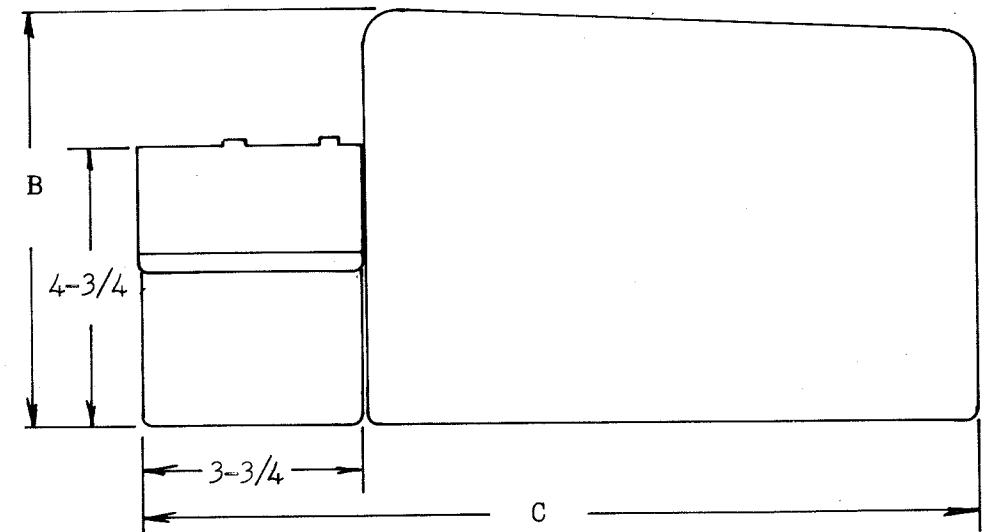
DIMENSIONS	TT-187/UG	TT-187A/UG
A	8 in.	7-1/2 in.
B	9 in.	6-1/4 in.
C	15 in.	9-1/2 in.

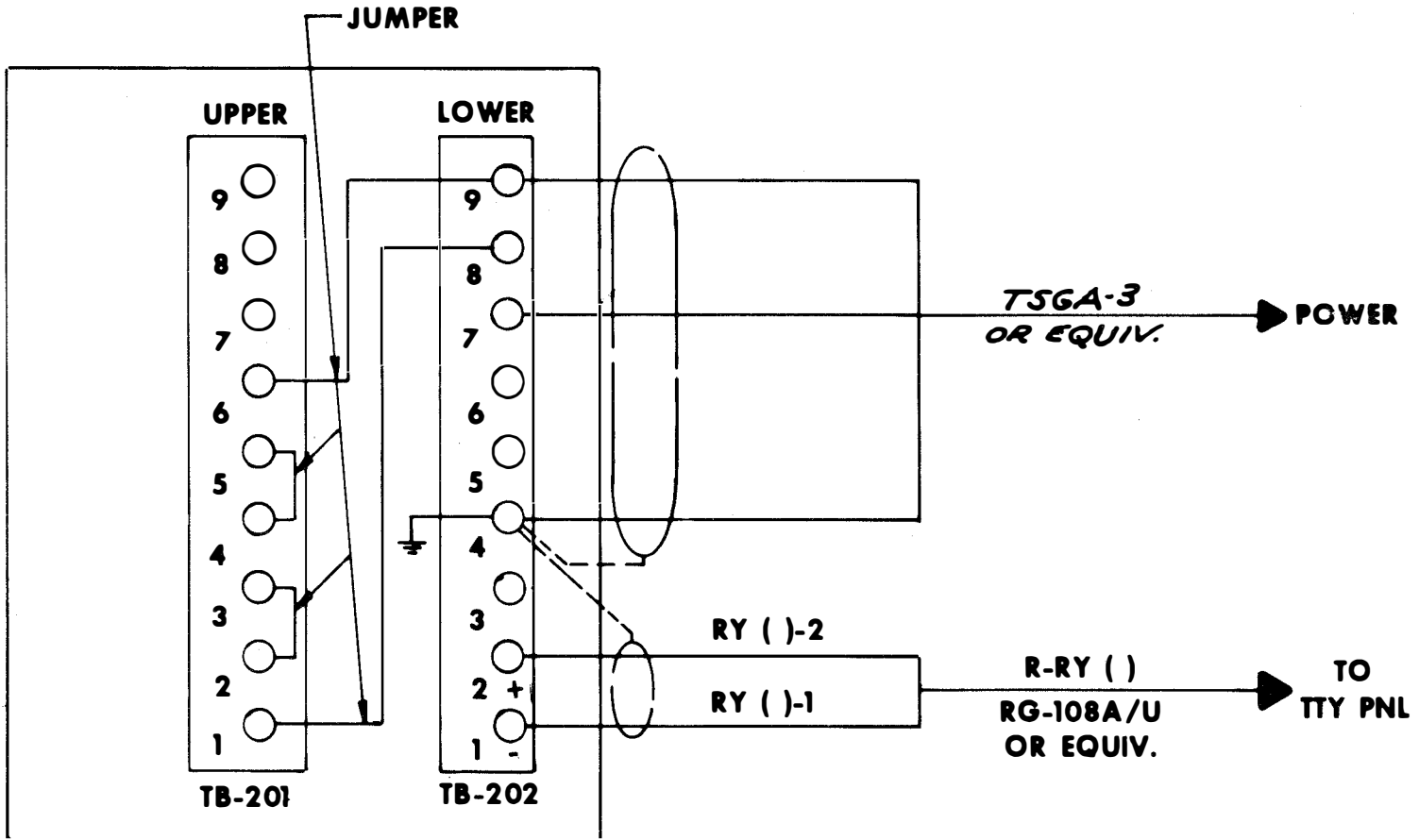
NOTE: 1. Template mounting plate and holes from TT-187A/UG.

**TT-187/UG AND TT-187A/UG  
OUTLINE AND  
MOUNTING DIMENSIONS  
FIGURE 7-9**



ORIGINAL





TT-187/UG  
CABLE DIAGRAM  
FIGURE 7-10





## SECTION 7 - TELETYPE

## 7.16 TT-192/UG and TT-192A/UG GENERAL DESCRIPTION

The TT-192/UG teletypewriter reperforator is a receiving unit only used to receive messages transmitted over wire or radio circuits and to record the message both in code perforations and typed characters on the same tape. It is used for relaying purposes in teletypewriter receiving and distributing center.

The TT-192A/UG teletypewriter reperforator is a miniaturized version of the receiving only equipment. It is designed for installation where minimum overall space and weight requirements must be met. Its function is identical to that of typing reperforator set TT-192/UG.

## 7.17 REFERENCE DATA

- a. Table of Technical Publications - Table 7-12
- b. Primary Power Requirements - Table 7-13
- c. Heat Dissipation - Table 7-14
- d. Unit Weight - Table 7-14

## 7.18 INSTALLATION REQUIREMENTS

- a. Arrangement - The TT-192/UG and TT-192A/UG are normally installed on a shelf type foundation. See Figure 7-11 for typical foundation details.
- b. Outline and Mounting Dimensions
  - (1) TT-192/UG Figure 7-12
  - (2) TT-192A/UG Figure 7-13
- c. Grounding Specifications - All bonding and grounding to be in accordance with Table 7-12 Item No. 2.

## 7.19 CABLE DIAGRAM AND CONNECTION DETAILS

- a. Elementary Connections - Figure 7-14
- b. Electronics Installation and Maintenance Standards - To be in accordance with Table 7-12 Item No. 8
- c. Security Requirements - To be in accordance with Table 7-12 Item No. 6.

## 7.20 FIELD CHANGE REQUIREMENTS - Table 2-15.



ORIGINAL

ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
1	0967-968-3010	Technical Manual for Teletypewriter Typing Reperforator Sets TT-192/UG, TT-192A/UG, TT-253/UG, TT-253A/UG, TT-274/UG and TT-292/UG
2	Mil. Std. 1310A (NAVY)	Shipboard Bonding and Grounding Methods for Electromagnetic Compatibility
3	*RE-D-2692456	Outline and Mounting Data
4	*RE-D-2692455	Interconnecting Wiring Diagram
5	*RE-F-2692331	Interconnecting Wiring Diagram
6	NAVSHIPINSTR. 05510.33B	Installation Criteria for Shipboard Secure Electrical Information Processing Systems
7	0981-052-8090	Data Pertaining to Electrical Shipboard Cable
8	0967-000-0000	Electronics Installation and Maintenance Books

\*These plans are not essential for installation but if available use as reference.

**TABLE OF TECHNICAL PUBLICATIONS**

TABLE 7-12

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-12

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-13/7-14

EQUIPMENT	VOLTAGE	CURRENT	POWER	REMARKS
TT-192/UG (IMU3 AC) Synchronous Motor	115 VAC, 60 Hz, Single Phase	Starting 9 Amps. Running 1.85 Amps.	65 Watts	No Load 23.7 % PF Full Load 38.5 % PF
TT-192A/UG (IMU24) Miniaturized A.C. Synchronous Motor	115 VAC, 60 Hz, Single Phase	Starting 5 Amps Running (No Load) 1.05 Amps Full Load 1.25 Amps		

TABLE OF PRIMARY POWER REQUIREMENTS  
TABLE 7-13

EQUIPMENT	HEAT DISSIPATION	UNIT WEIGHT
TT-192/UG	50 Watts	40 Lbs.
TT-192A/UG	50 Watts	33.75 Lbs.

TABLE OF MISCELLANEOUS DATA  
TABLE 7-14

ORIGINAL

7-36

ORIGINAL

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. TT-192/UG All	0285-058-8100	Installation of 194032 Mod. Kit (converts equipment from 7.42 unit code to 7.00 unit code).	FA	F 5815-981-3252	
2. TT-192/UG equipments prior to Serial No. 12,000 and 2,800	0285-072-6000	Installation of improved main shaft and function clutch bearings	FA		Field Change accomplishment TAB installed adjacent to modified unit name plate.
1. TT-192A/UG	0967-105-7020	Same as FC #1 TT-192/UG			
2. TT-192A/UG		Cancelled			

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-15

FIELD CHANGE REQUIREMENTS  
TABLE 7-15

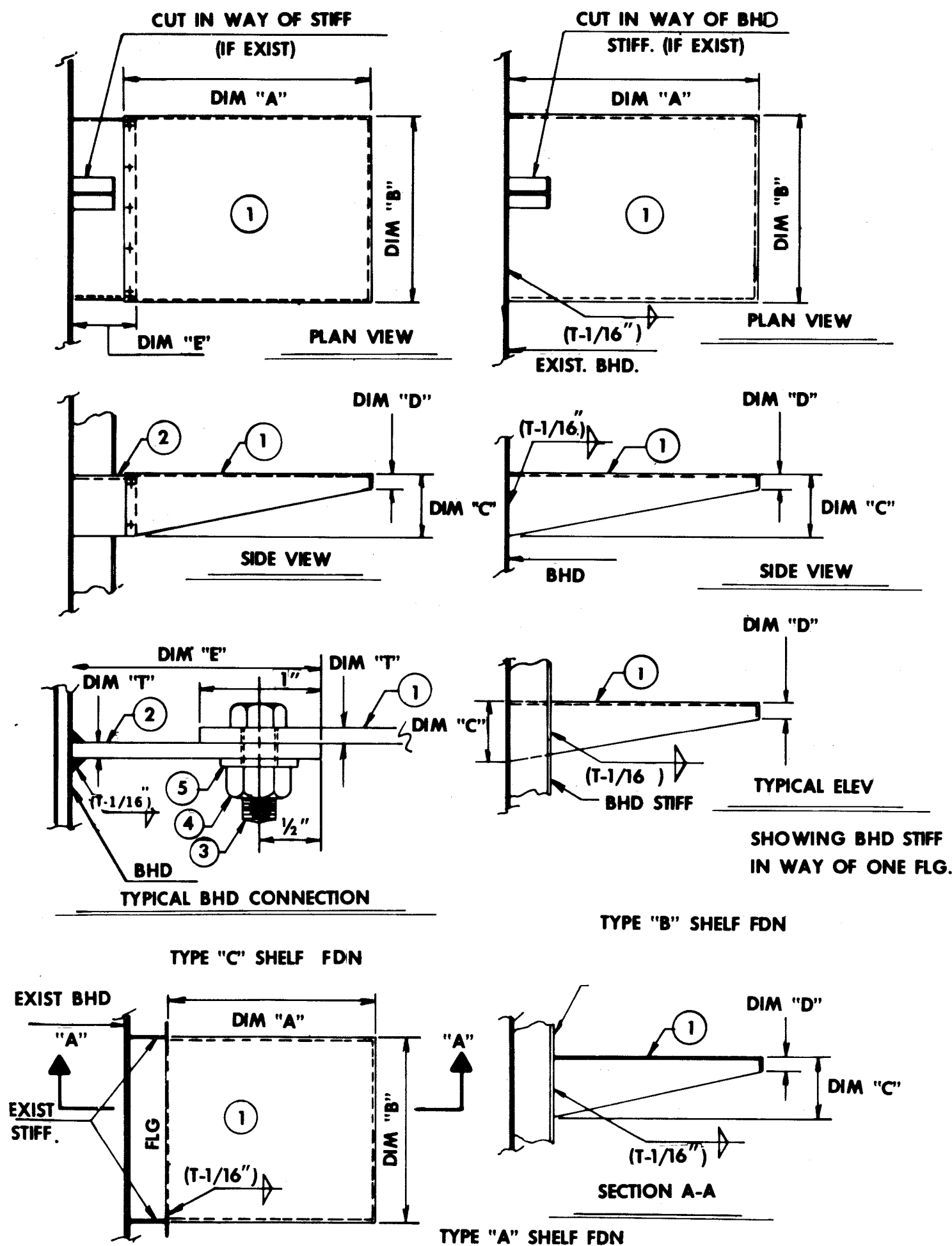
7-37/7-38



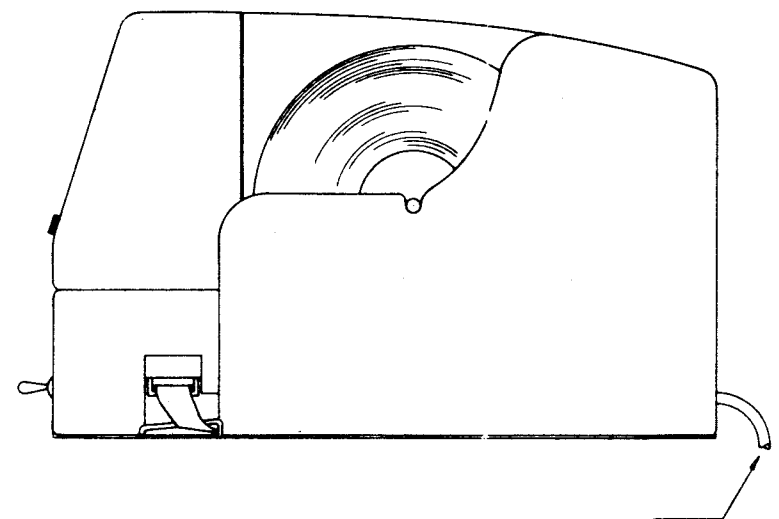
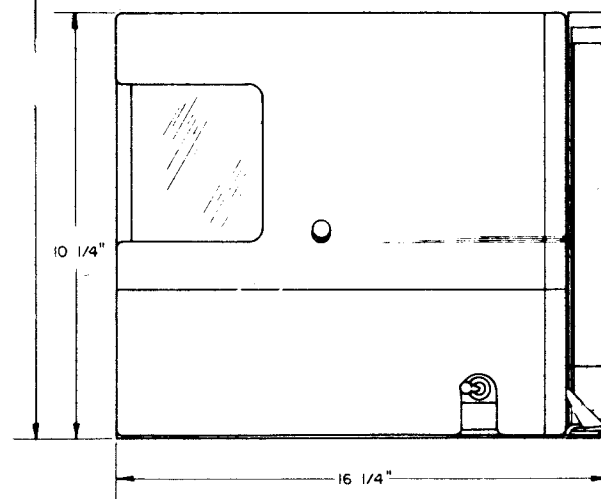
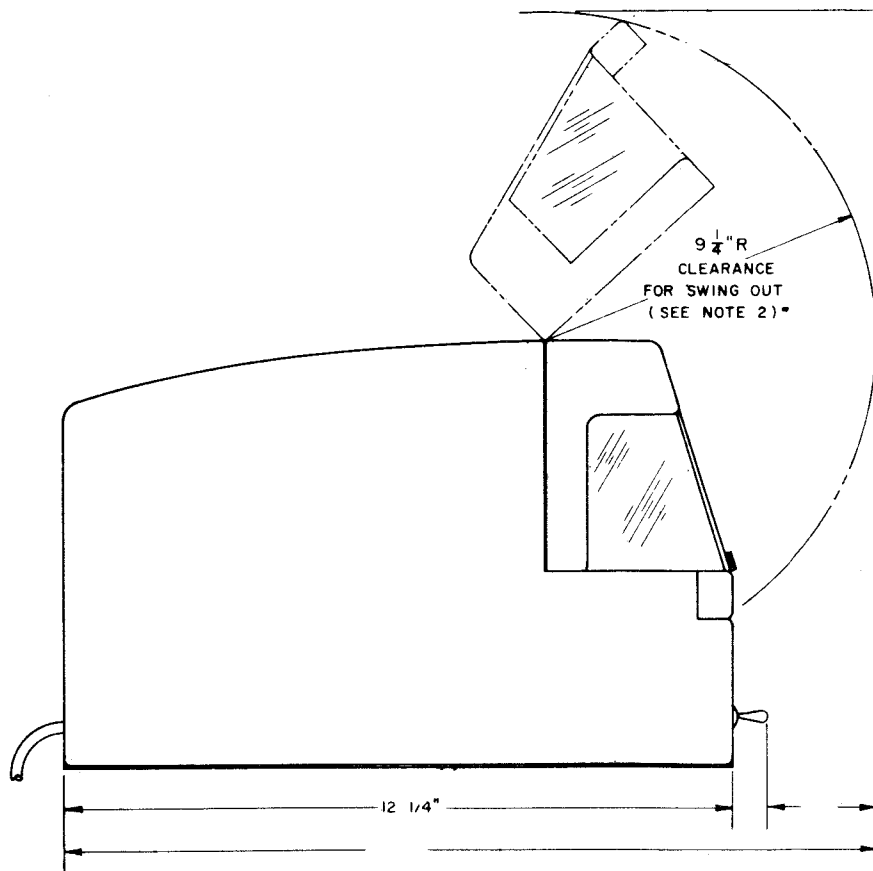
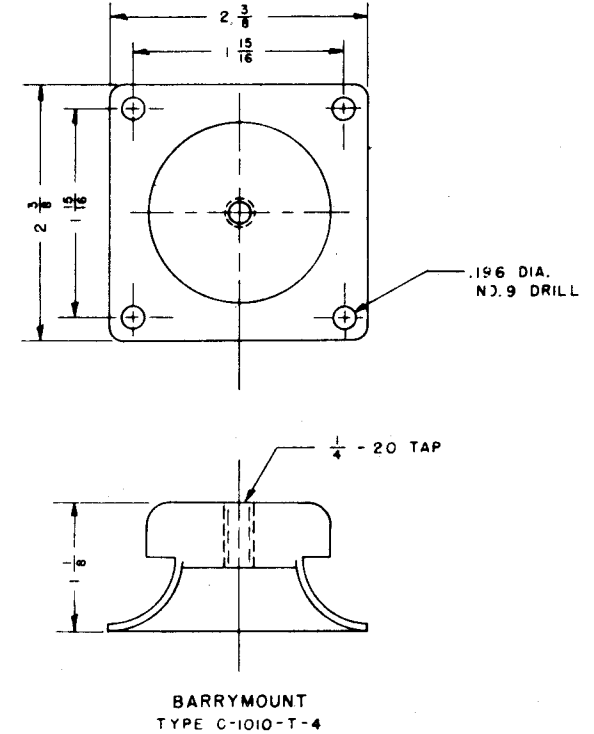
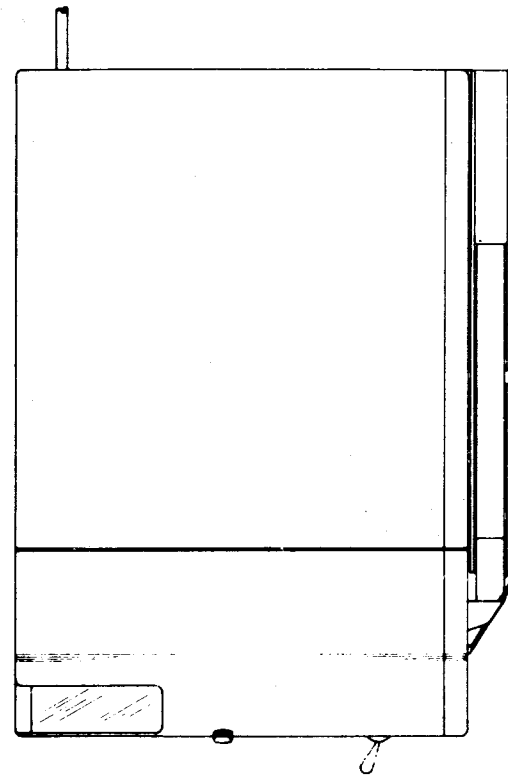
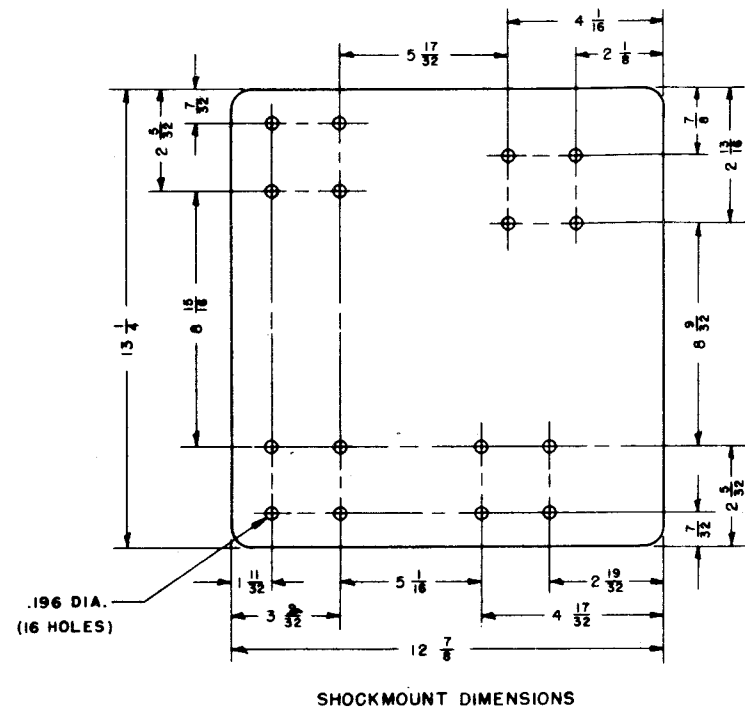
LIST OF MATERIAL QUANTITIES FOR ONE FDN					
PC NO.	NAME	NO.	MATERIAL	MT'L SPEC.	REMARKS
1	PLT (SEE NOTE #2)	1	MED. STL	MIL-S-16113	TYPE "A"
1	PLT (SEE NOTE #2)	1	MED. STL	MIL-S-16113	TYPE "B"
1	PLT (SEE NOTE #2)	1	AL-61S-T6	QQ-A-327	
2	PLT (SEE NOTE #2)	1	MED STL	MIL-S-16113	
3	1/4" HEX H.D. BOLT	AS REQ'D	C.R.S.	MIL-B-857	TYPE "C"
4	1/4" HEX NUT			MIL-B-857	
5	1/4" DIA-FLAT WASHER			MIL-S-854	

NOTES:

- Thickness (Dim. "T" of material to be furnished on location.
- All variable dimensions and type of foundation to be specified on location.
- Foundation for TT-192A/UG to be as follows:
  - Plating (7.65 #Plt. steel), 1/4" thick aluminum
  - Type "B" shelf foundation
  - For installation with stiffener in way of unit. Dimension "A" = 18" + depth of stiffener, dimension "B" = 12", dimension "C" = 6, dimension "D" = 1 1/2".
  - For installation with no stiffener interference: Dimension "A" = 18", dimension "B" = 12", dimension "C" = 6", dimension "D" = 1 1/2".
- Foundation for TT-192/UG to be as follows:
  - Plating (7.65 #Plt. steel), 1/4" thick aluminum.
  - Type "B" shelf foundation
  - For installation with stiffener in way of unit. Dimension "A" = 20" + depth of stiffener, dimension "B" = 15", dimension "C" = 6", dimension "D" = 1 1/2".
  - For installation with no stiffener interference: Dimension "A" = 20", dimension "B" = 15", dimension "C" = 6", dimension "D" = 1 1/2".
- Size and location of mounting bolts for unit to be taken from equipment.



TT-192/UG AND TT-192A/UG  
TYPICAL FOUNDATION DETAILS

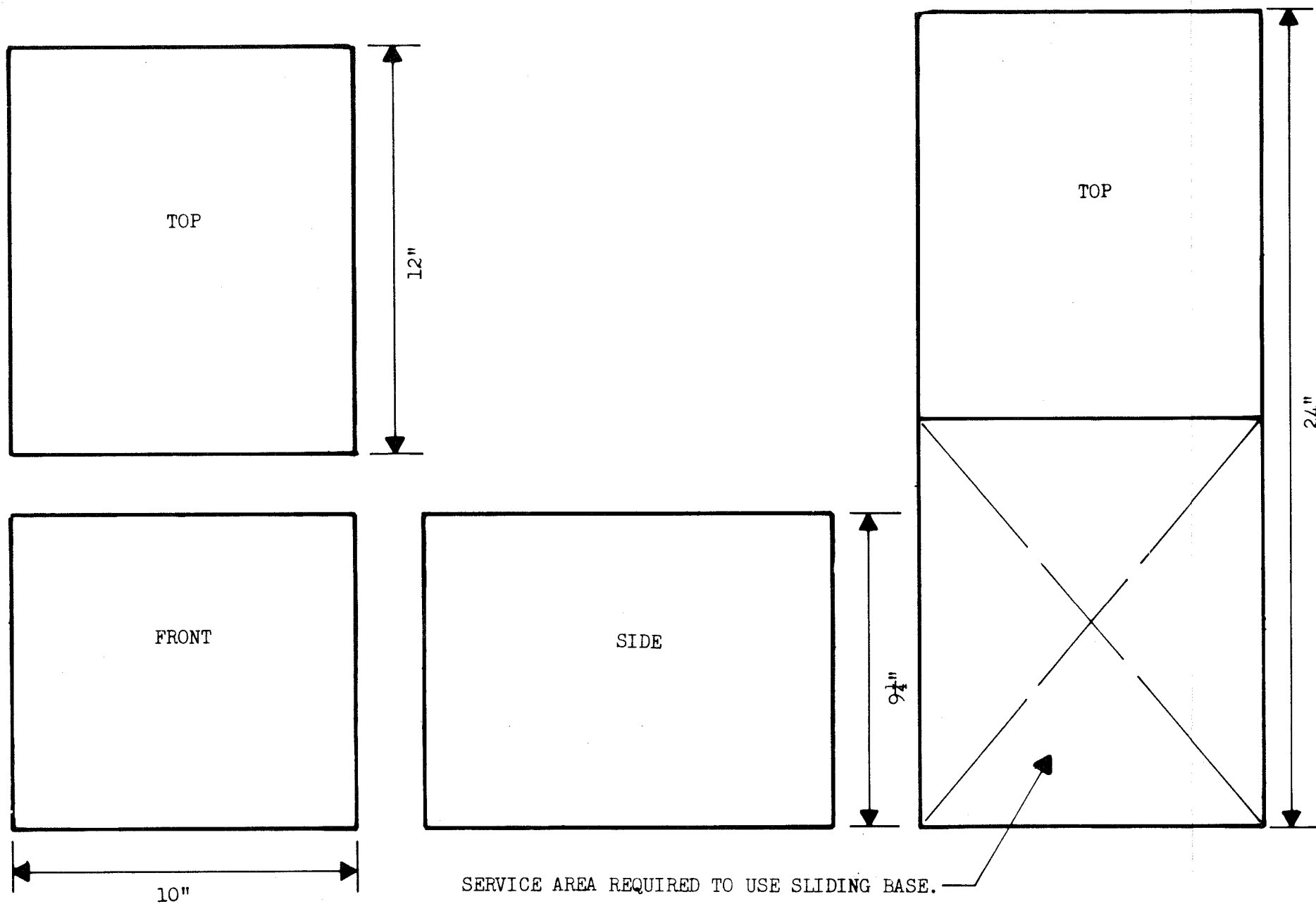


TT-192/UG OUTLINE AND MOUNTING DIMENSIONS

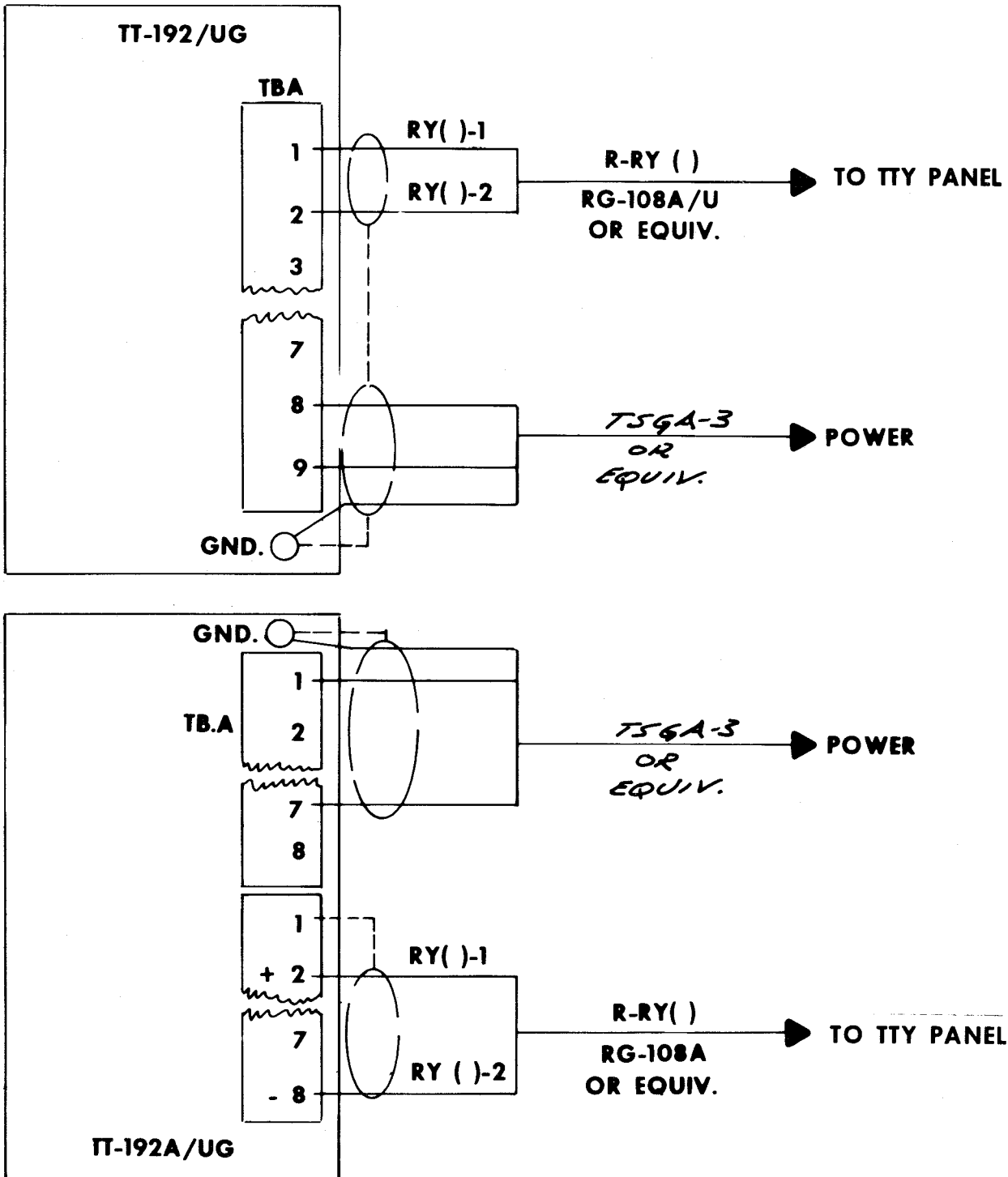
FIGURE 7-12

ORIGINAL





**TT-192A/UG  
OUTLINE AND MOUNTING DIMENSIONS  
FIGURE 7-13**



**TT-192/UG AND TT-192A/UG  
CABLE DIAGRAM  
FIGURE 7-14**

## SECTION 7 - TELETYPE

## 7.21 TT-176/UG GENERAL DESCRIPTION

The TT-176/UG teletypewriter is used to exchange typewritten messages between two or more ships or stations connected by a radio or wire telegraph channel. Characteristics: 72 english characters per line, friction feed; 368, 460, and 600 operations per minute by gear changes; five unit code, 7.42 unit transmission pattern, synchronous motor.

## 7.22 REFERENCE DATA

- a. Table of Technical Publications - Table 7-16
- b. Primary Power Requirements - Table 7-17
- c. Heat Dissipation - Table 7-18
- d. Unit Weight - Table 7-18

## 7.23 INSTALLATION REQUIREMENTS

- a. Arrangement - The TT-176/UG teletypewriter maybe installed on a shelf type foundation or similar flat surface of adequate strength. See Figure 7-15 for typical foundation details.
- b. Outline and Mounting Dimensions - Figure 7-16.
- c. Grounding Specifications - All bonding and grounding to be in accordance with Table 7-16 Item No. 2.

## 7.24 CABLE DIAGRAM AND CONNECTION DETAILS

- a. Elementary Connections - Figure 7-17.
- b. Electronics Installation and Maintenance Standards - To be in accordance with Table 7-16 Item No. 7
- c. Security Requirements - To be in accordance with Table 7-16 Item No. 5.

## 7.25 FIELD CHANGE REQUIREMENTS - Table 7-19



ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
1	0280-496-2012	Instruction Book for Teletypewriter TT-176/UG
2	Mil. Std. 1310A (NAVY)	Shipboard Bonding and Grounding Methods for Electromagnetic Compatibility
3	*RE-C-2692365	Outline and Mounting Data
4	*RE-D-2692566	Interconnecting Wiring Diagram
5	NAVSHIPSINSTR. 05510.33B	Installation Criteria for Shipboard Secure Electrical Information Processing Systems
6	0981-052-8090	Data Pertaining to Electrical Shipboard Cable
7	0967-000-0000	Electronics Installation and Maintenance Books.

\*These plans are not essential for installation but if available use as reference.

**TABLE OF TECHNICAL PUBLICATIONS**

TABLE 7-16

TELETYPE

EQUIPMENT	VOLTAGE	CURRENT	POWER	REMARKS
TT-176/UG	115 VAC, 60 Hz, Single Phase	Starting 9 Amps. Running 1.85 Amps.	65 Watts	Power Factor 0.30

ORIGINAL

## TABLE OF PRIMARY POWER REQUIREMENTS

TABLE 7-17

EQUIPMENT	HEAT DISSIPATION	UNIT WEIGHT	REMARKS
TT-176/UG	50 Watts	67 Lbs.	

## TABLE OF MISC. DATA

TABLE 7-18

NAVSHIPS 0967-306-1010

TABLE 7-17/7-18

7-46

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
1. TT-176/UG shipboard all used for aerological weather service	0967-109-4040	Modification kit MK-599/UG to provide for aerological weather service	FA-3	F5815-893-2490	An additional nameplate is attached to the unit when this change is accomplished.
2. TT-176/UG All	0285-058-8100	Installation of MK-698/UG mod. kit (converts equipment from 7.42 unit code to 7.00 unit code).		F5815-088-6025	
3. TT-176/UG All	0967-116-9020	Installation of oscillating rail slide plate	FA- $\frac{1}{4}$		Presence of a plate between the oscillating rail slide clamp.
4. TT-176/UG All	981770	Provide manual letlers shift by installation of MK-821/UG Mod. Kit.	FA-2		
5. TT-176/UG All	0967-116-9020	Installation of lubrication assembly	FA- $\frac{1}{2}$	1N5815-795-9335	Presence of lubricator assembly

FIELD CHANGE REQUIREMENTS  
TABLE 7-19(Continued)

TELETYPE

NAVSHIPS 0967-306-1010

TABLE 7-19

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
6. TT-176/UG Serial # below 61550 (Typing Units)	0285-077- 9500	Installation of one piece non-adjustable code bar shift lever guide bracket	FA-3	1N5815- 823- 1457	Code bar positioning mechanism.
7. TT-176/UG Serial # through 16799 (Typing Units)	0285-077- 9600	Installation of adjustable type box carriage adjustment	FA-2	1N5815- 370- 1718	Type box mechanism
8. TT-176/UG All	0285-077- 9700	Replacement of range finder plate	FA-1½		New type range finder knob
9. TT-176/UG	0967-173-7010	Normal input Keying Kit	FA-7		Installation of decal
1. TT-176A/UG	0967-116- 9020	Same as FC #1 TT-176/UG			
2. TT-176A/UG		Same as FC#2 TT-176/UG			
3. TT-176A/UG All		Modification for proper break key operation	FA-½		When white/green lead on pin 2 of the electrical service unit keyboard connector plug has been relocated to pin 1.

FIELD CHANGE REQUIREMENTS  
TABLE 7-19(Continued)

ORIGINAL

7-48



ORIGINAL

FIELD CHANGE NUMBER AND SERIAL NO. EFFECTIVITY	NAVSHIPS BULLETIN #	BRIEF DESCRIPTION OF CHANGE	INSTALLING ACTIVITY & MANHOURS	KIT FSN	IDENTITY
4. TT-176A/UG Serial # LP6 and UP	0285-073- 8900	Installation of 193936 (MK-764/UG) modifica- tion kit	FA	F5815- 066- 4354	
1. TT-176B/UG		Cancelled			
2. TT-176B/UG	09 <del>67</del> -105- 7020	Same as FC#4 TT-176A/UG			
5. TT-176A/UG	0967-116- 9020	Same as FC #9 TT-176/UG			
3. TT-176B/UG		Same as FC #9 TT-176/UG			
1. TT-176C/UG		Same as FC #9 TT-176/UG			

FIELD CHANGE REQUIREMENTS  
TABLE 7-19

TELETYPE

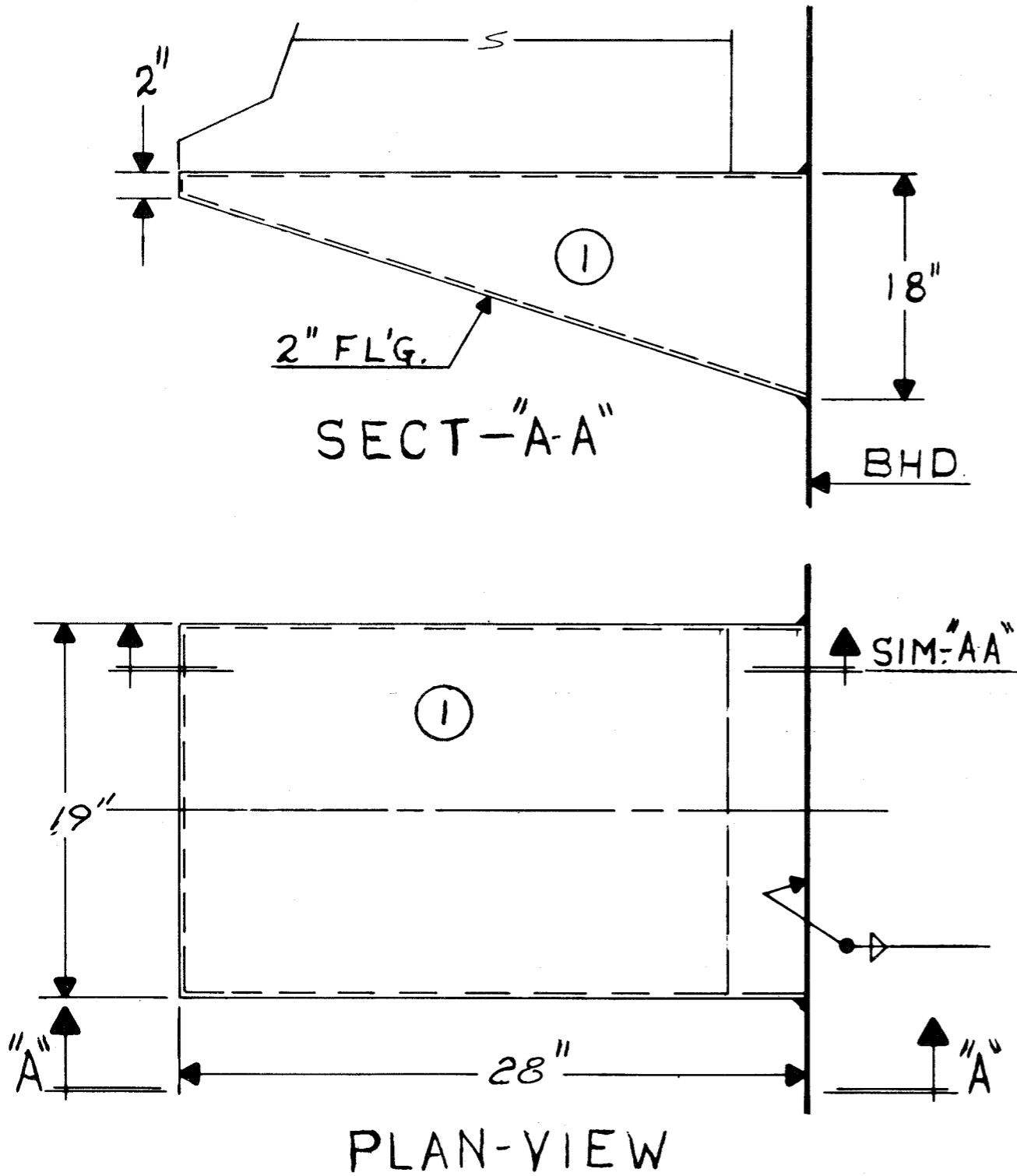
NAVSHIPS 0967-306-1010

TABLE 7-19

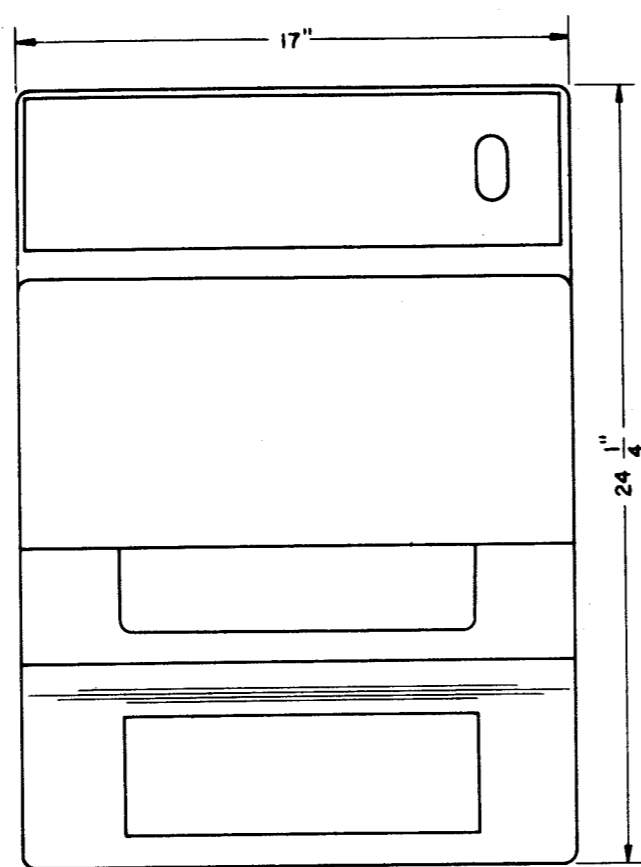
7-49/7-50



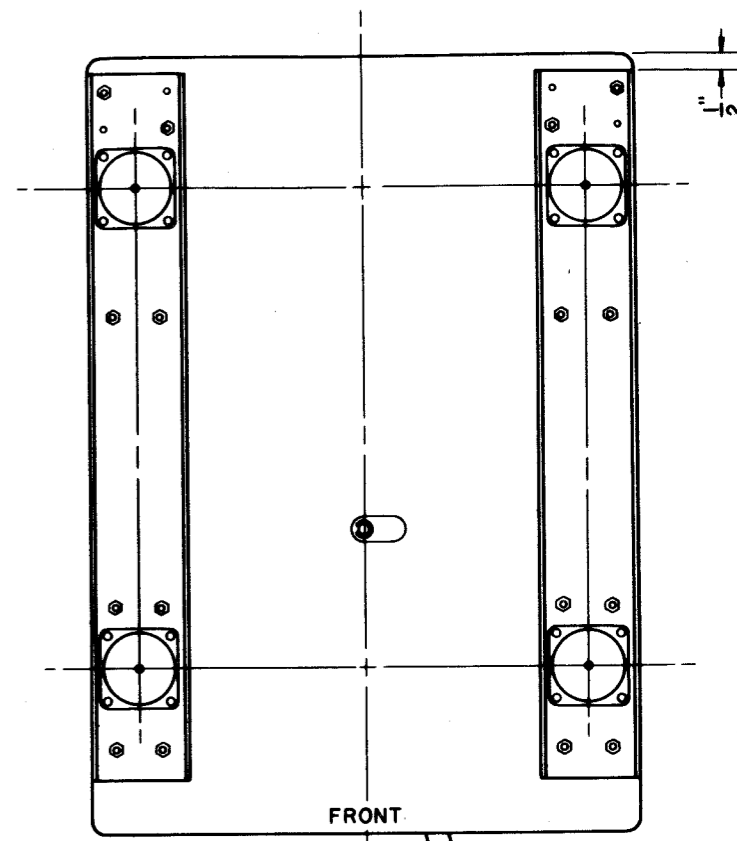
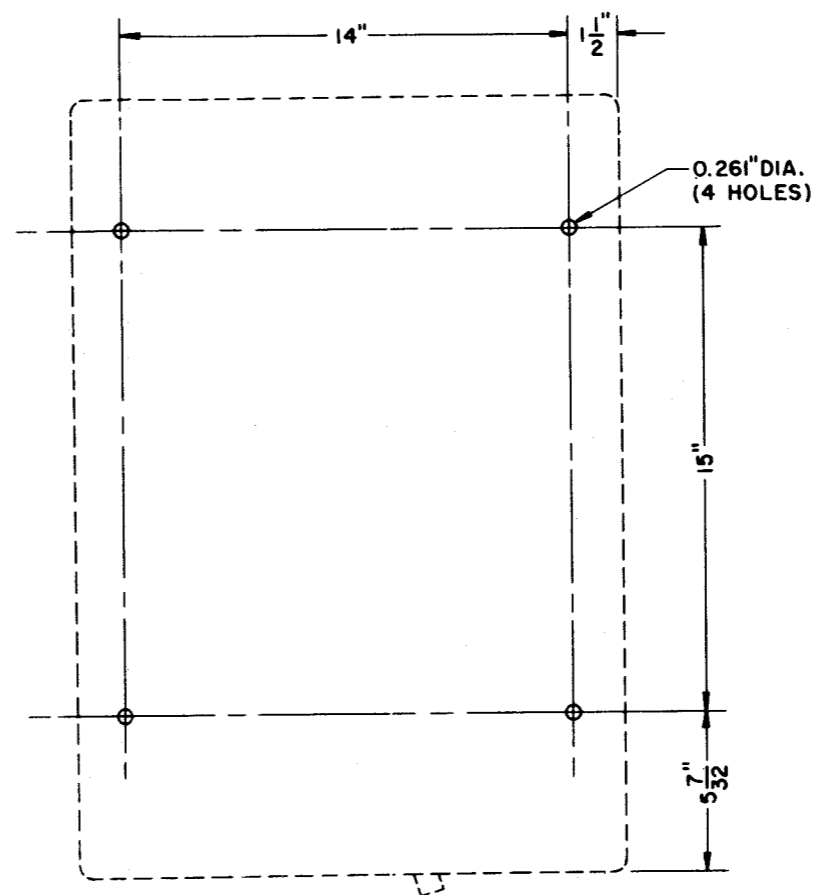
LIST OF MATERIAL - QUANTITIES FOR ONE FOUNDATION				
PIECE NO.	NAME	NO. REQ'D.	MATERIAL	FEDERAL STOCK NO.
1	7.65 Plt.	/	M.S.	9515-237-5333
1	$\frac{1}{4}$ " Thick Plt.	/	Aluminum	9535-542-2643



TT-176/UG TELETYPEWRITER  
 TYPICAL FOUNDATION DETAILS  
 FIGURE 7-15



TOP VIEW

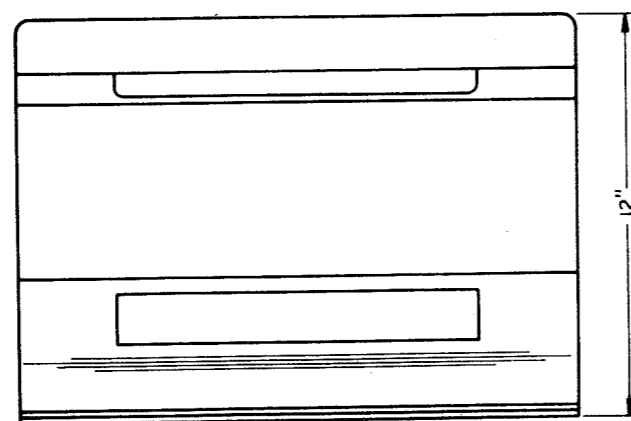


BASE PLATE WITH VIBRATION MOUNTS

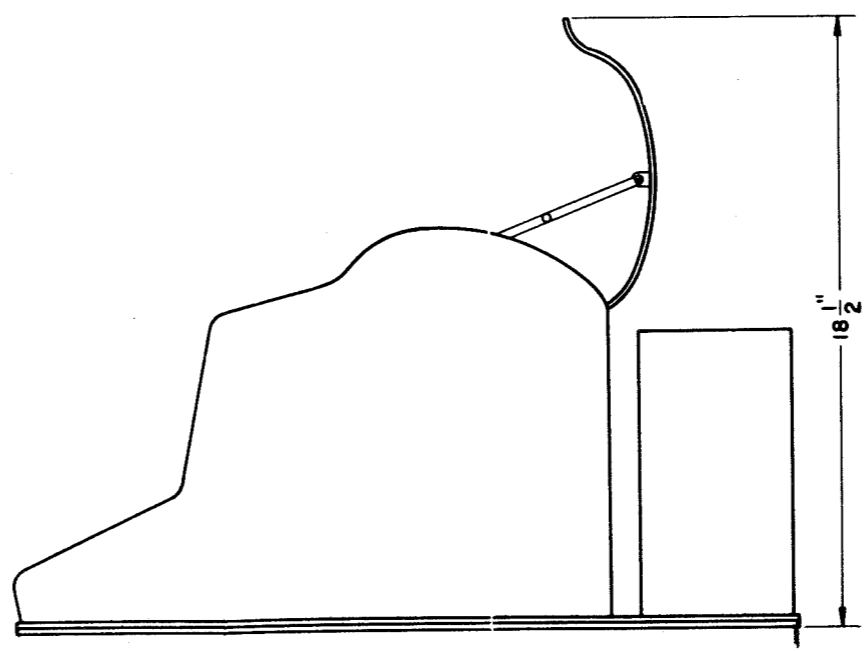
TT-176/UG

OUTLINE AND MOUNTING DIMENSIONS

FIGURE 7-16

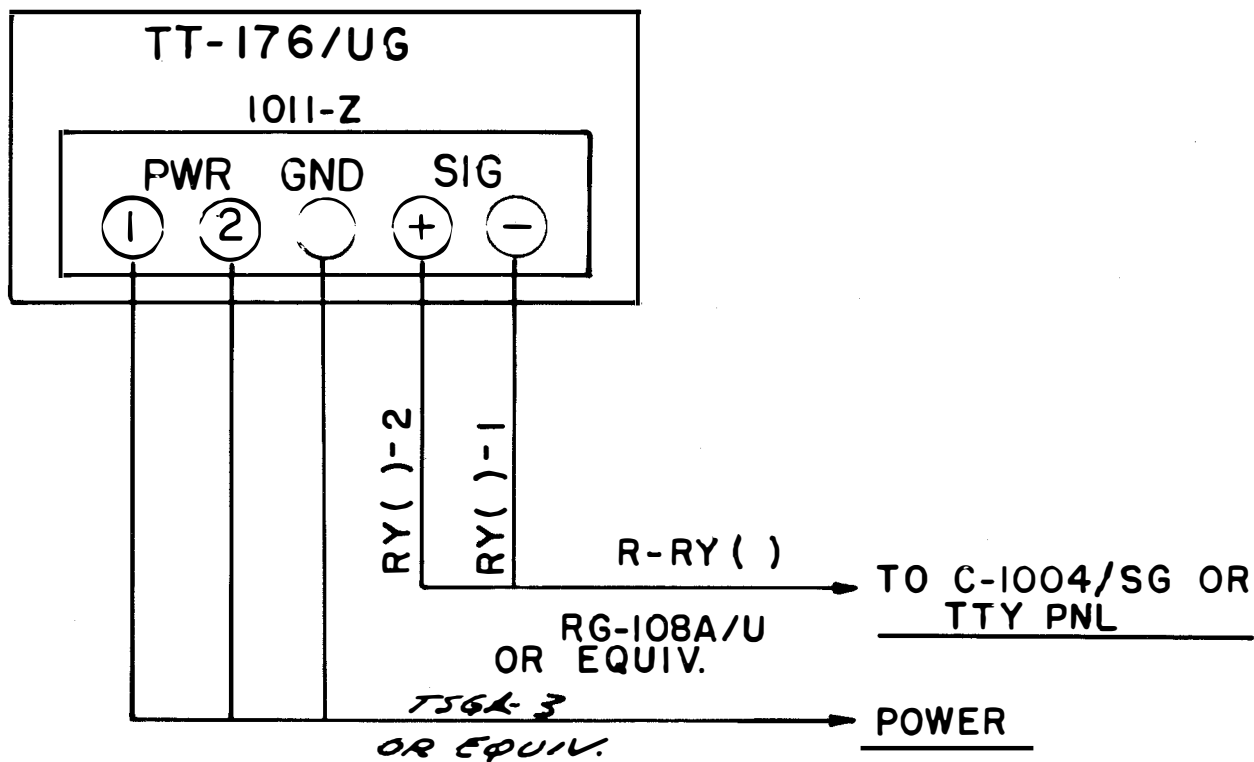


FRONT VIEW



SIDE VIEW (REAR LID OPEN)

ORIGINAL



TT-176/UG  
CABLE DIAGRAM  
FIGURE 7-17

