



U. S. Department  
of Transportation

**Federal Aviation  
Administration**

Small Airplane Directorate  
Chicago Aircraft Certification Office  
2300 E. Devon Avenue  
Des Plaines, IL. 60018

June 21, 2007

Mr. Allen Abell  
Quality Engineering Manager  
Otto Controls Division  
10 West Main Street  
Carpentersville, IL 60110

Dear Mr. Abell:

This is in response to your letter, dated June 1, 2007, requesting Technical Standard Order (TSO) authorization for a headset and attached boom microphone, Part Number V4-10551. The Statement of Conformance to TSO-C57a and TSO-C58a and the data submitted are accepted. Effective this date, you are authorized to identify the following headset and attached boom microphone, Part Numbers V4-10551 with the marking requirements defined in 14 Code of Federal Regulations (CFR) Section 21.607(d) and in TSO-C57a and TSO-C58a.

Your Quality Control System as defined in Otto Control Quality & Repair Station Manual, Rev. AE, dated January 18, 2007, is considered satisfactory for production of this equipment at your Carpentersville, Illinois, manufacturing facility.

The following statement must be furnished with each manufactured unit:

“The conditions and tests required for TSO approval are minimum performance standards. It is the responsibility of those installing this article either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within the TSO standards. TSO articles must have separate approval for installation in an aircraft. The article may be installed only if performed under 14 CFR part 43 or the applicable airworthiness requirements.”

The following submitted data, (except Item b-1) will be retained in our files:

- a. Statement of Conformance in your letter dated 06/01/07,
- b. OTTO Operation Instructions,

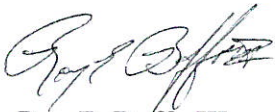
- c. OTTO Equipment Limitations,
- d. OTTO Installation Procedures,
- e. OTTO Schematic Drawings,
- f. OTTO Wiring Diagrams,
- g. OTTO Specifications
- h. OTTO Equipment Calibration and Maintenance Procedures
- i. OTTO List of Major Components
- j. OTTO Complete drawing List
- k. OTTO Functional Test Specification
- l. OTTO Copy of Nameplate Drawing
- m. OTTO TSO Qualification Test Report

Any design change to this TSO article must be forwarded to this office as outlined in 14 CFR § 21.611 with minor change submittal intervals not to exceed six months. Also, as recipient of this authorization, you are required to report any failure, malfunction, or defect relating to this authorization in accordance with the provisions of 14 CFR § 21.3.

This authorization is not transferable to another person or location and is effective until surrendered, withdrawn, or otherwise terminated by the Administrator.

If you have any questions regarding this authorization, contact me at (847) 294-7564.

Sincerely,

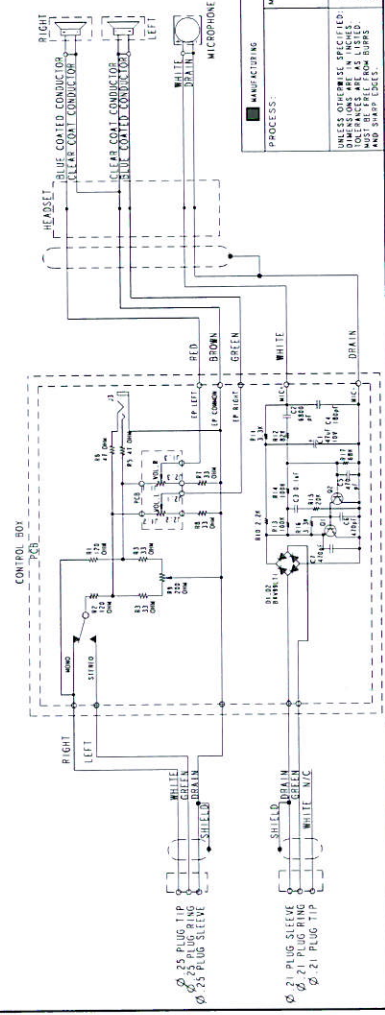
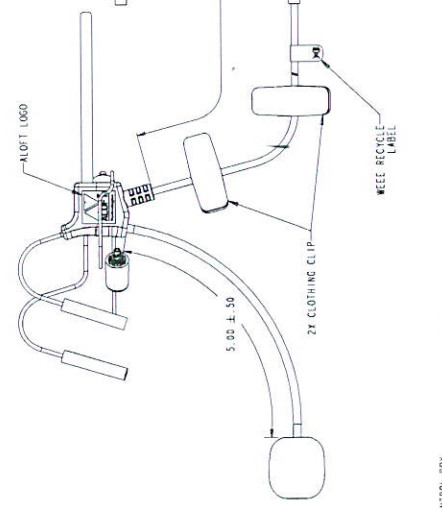
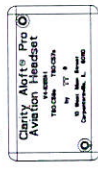
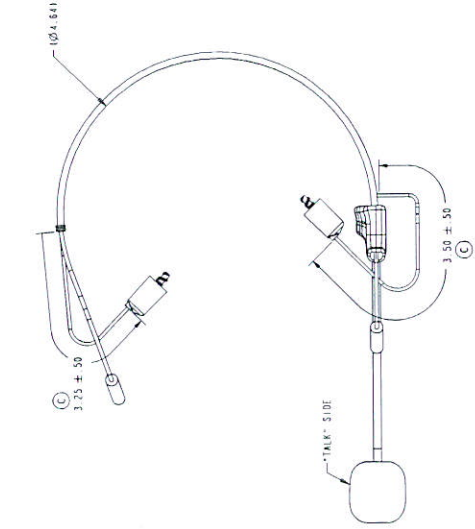
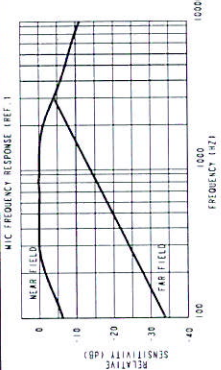


Roy E. Boffo III  
Sr. Systems Engineer  
Systems & Flight Test Branch

Enclosures

V4-10551-1

REV	QCN	DATE	APP
A	03789	06 JUL 51	GRJ
B	039516	05 OCT 51	GRJ
C	039713	11 OCT 51	GRJ



NOTES:

- THIS PART/PRODUCT IS TO BE MANUFACTURED WITH THE FOLLOWING SPECIFICATIONS AND TOLERANCES. DEVIATION OF THE USE OF HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RESIST AND WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)).

	UNITS	MIN	TYP	MAX
<b>ELECTRICAL</b>				
<b>MICROPHONE</b>				
FREQUENCY RESPONSE		50 HZ		10 KHZ
MEASURED AT 1 MHZ			-44	-40
0dB = 1Vrms/ubar @ 1/4 INCH				
TEST VOLTAGE = 9V				
RL = 4.7K OHM				
<b>MECHANICAL</b>				
DISTORTION @ 20 DB SPL				3X THD
RATED SUPPLY VOLTAGE	VOLTS	1.2		2.0
16-25 °C				
DC RESISTANCE @ 20°C	OHMS	49	58	67
IMPEDANCE AT 1MHZ	OHMS	240	300	360
SENSITIVITY	dB	104.5	107.5	110.5
<b>MATERIALS</b>				
PULL STRENGTH	LBS.	30		
FROM CONNECTOR	LBS.	30		
CABLE FROM HEADSET, AXIAL	LBS.	30		
<b>ENVIRONMENTAL</b>				
FLEX AT CONNECTOR	CYCLES	25,000		
CABLE FLEX AT HEADSET, (1 LB. WT.)	CYCLES	15,000		
BOOM SHALL WITHSTAND 4500 ± 450° BENDING CYCLES (ANY TYPICAL) OR PHYSICAL APPEARANCE				
BOOM FLEX	CYCLES	25,000		
WIREFORM FLEX (TIP TO TIP)	CYCLES	25,000		
ENVIRONMENTAL	°C	-20		+60
STORAGE TEMPERATURE	°C	-40		+80
HUMIDITY		95% RH		
SHOCK		100G TO RUBBER PAD		
VIBRATION		10-50Hz @ 1.5mm P-P AMPL		
DRIP		W/D FAILURE @ 0 in.		
BLOWING RAIN		SIC 4 PROCEDURE 1		
PACKAGING		EACH HEADSET INDIVIDUALLY BAGGED IN AN ANTI-STATIC BAG.		

DESCRIPTION: V4, HEADSET, HURRICANE, SMALL  
HEARBRAND AVIATION EC CONNECTOR, V/C

MATERIAL: SPE

PROCESS: MANUFACTURING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF. DIMENSIONS ARE LISTED UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE LISTED UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE LISTED UNLESS OTHERWISE SPECIFIED.

DATE CODE (1 PR. W/1) PART NUMBER 10551-1 (10551-1) DATE CODE (1 PR. W/1) PART NUMBER 10551-1 (10551-1)

REV C  
DRAWING NO. V4-10551-1  
SCALE 4:5  
SHEET 1 OF 1