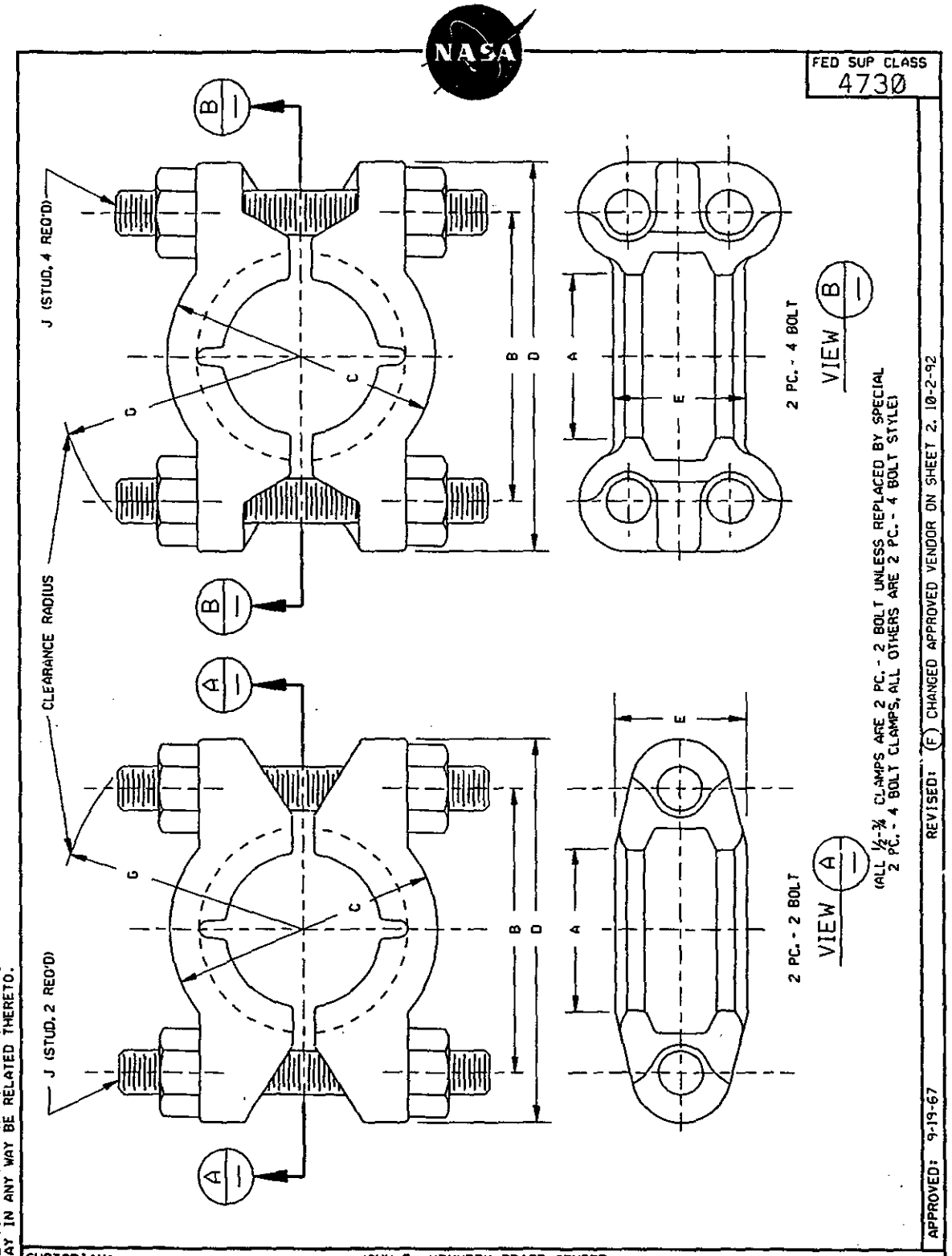

CUSTODIAN: JOHN F. KENNEDY SPACE CENTER

PROCUREMENT SPEC. NONE	CLAMP ASSEMBLY	STANDARD PART
COORDINATION STATUS		KC155
KSC DE		SHEET 1 OF 3

KSC FORM 32-85 (CG 4/92)

NOTICE: WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

FED SUP CLASS
4730

MATERIAL CODE: CLAMP HALVES SHALL BE IN ACCORDANCE WITH MATERIAL CODES SHOWN ON SHEET 3.

STUD MATERIAL FOR CARBON STEEL CLAMPS SHALL BE SA-193-B7.
STUD MATERIAL FOR STAINLESS STEEL CLAMPS SHALL BE SA-193-B8 FOR MATERIAL CODE C. MATERIAL CODE D SHALL HAVE STUD MATERIAL IN COMPLIANCE WITH THE DIMENSIONAL AND TOLERANCE SPECIFICATIONS OF SA-193 AND MATERIAL SPECIFICATION PER SB-574 ALLOY N10276.

NUT MATERIAL FOR CARBON STEEL CLAMPS SHALL BE SA-194-GR2 OR 2H.
NUT MATERIAL FOR STAINLESS STEEL CLAMPS SHALL BE SA-194-GR8.

TEMPERATURE RANGE: SEE MATERIAL SPECIFICATION.

NOTES:

1. ALL MATERIALS ARE PER ASTM SPECIFICATIONS
2. ALL DIMENSIONS ARE IN INCHES.
3. TOLERANCE: SEE KC161.
4. FOR DESIGN FEATURE PURPOSES, THIS DRAWING TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.
5. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON THE DATE OF INVITATION FOR BID.
6. PASSIVATE STAINLESS STEEL CLAMPS PER QQ-P-35 TYPE VI OR VII.
7. HUB SIZES 1/2GR4/5, 3/4GR4/5, AND 1GR11 ARE NOT TO BE USED FOR NEW DESIGN.
8. MATERIAL CODES B AND C FOR 5" CLAMP SIZE ARE SA351-CF8 (4 BOLT)(#48003).
9. SA-182-F316 CLAMPS ARE NON-STOCK SPECIAL ORDER ITEMS AND SHALL NOT BE USED FOR NEW DESIGN.
10. 1-1½" CLAMP SIZE (-2) IS NOT INTERCHANGEABLE WITH 1" CLAMP SIZE (-8).
11. MATERIAL CODE B FOR 1" CLAMP SIZE IS SA-351-CA15. MATERIAL CODE C FOR 1" CLAMP SIZE IS SA-351-CF8M.
12. MATERIAL CODE C HAS STUDS PER SA-193-B8 AND SHOULD ONLY BE USED IN ENVIRONMENTS NOT SUBJECT TO EXTREME CORROSION.
13. MATERIAL CODE D HAS STUDS PER SB-574 ALLOY N10276 AND SHOULD ONLY BE USED IN ENVIRONMENTS SUBJECT TO EXTREME ACIDIC CORROSION.
14. A CLAMP ASSEMBLY SHALL CONSIST OF 2 CLAMP HALVES, 4 STUDS, AND 8 NUTS, EXCEPT 2PC. 2 BOLT CLAMP ASSEMBLIES SHALL HAVE 2 STUDS AND 4 NUTS.
15. DO NOT USE THIS STANDARD FOR ITEMS WHICH CANNOT BE IDENTIFIED BY THE LIMITATIONS CONTAINED HEREIN.
16. ALL PARTS NOT MANUFACTURED BY GRAY TOOL CO. MUST BE CERTIFIED BY THE MANUFACTURER TO BE INTERCHANGEABLE WITH THE GRAY TOOL PART NUMBER.

EXAMPLE OF PART NOS. BASIC PART NUMBER KC155-3A
- MATERIAL CODE
- DASH NUMBER

APPROVED SOURCE: COMMERCIAL PARTS CAN BE PURCHASED FROM: VETCO-GRAY INC. 10777 NW FWY PO BOX 2291 HOUSTON, TX 77252-2291.

ALTERNATE SOURCES:

OTECO EQUIPMENT COMPANY
2811 TROUT STREET
P.O. BOX 1849
HOUSTON, TX 77251-1849

REFLANGE, INC.
5730 CENTRALCREST
HOUSTON, TX 77092

REVISED: (F) CHANGED APPROVED SOURCE. 10-2-92

APPROVED: 9-19-67

CUSTODIAN: JOHN F. KENNEDY SPACE CENTER

PROCUREMENT SPEC. NONE	CLAMP ASSEMBLY	STANDARD PART KC155
COORDINATION STATUS KSC DE		SHEET 2 OF 3

KSC FORM 32-85 (CG 4/92)

NOTICE: WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

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DASH NO.	HUB SIZE	CLAMP SIZE	DIMENSIONS A	B	C	D	E	F	G	J	K	M	N	-A SA-266 CL. III NORM. GRAYLOC STK NO.	-B SA-182 F316 (9) GRAYLOC STK NO.	-C SA-182 F304 (12) GRAYLOC STK NO.	-D SA-182 F304 (13) GRAYLOC STK NO.
1 (7)	1/2GR4	1/2-3/4	1.188	2.625	2.812	3.625	1.000	2.125	2.250	.375	3.000	1.000	---	50019	---	48500	48500
	1/2GR5																
	3/4GR4																
	3/4GR5																
2 (7) (10)	1GR11	1-1½	2.687	5.000	4.500	6.500	2.000	3.250	4.000	.625	5.000	3.125	1.625	49500	49533	48501 (1)	48501 (1)
	1-1/2GR14																
3	2GR14	2	3.187	5.750	5.062	7.500	2.000	3.625	4.500	.750	5.250	3.500	1.812	49501	49534	48502	48502
	2GR20																
4	2-1/2GR20	2½-3	4.375	7.500	6.875	9.250	2.375	4.500	5.250	.750	6.000	3.500	1.812	49502	49535	48503	48503
	2-1/2GR25																
	3GR25																
	3GR27																
5	4GR31	4	5.375	8.500	8.125	10.500	2.375	5.250	6.000	.875	7.000	4.062	2.062	49503	49536	48504	48504
	4GR34																
	4GR40																
6	5GR52	5	6.875	10.250	9.750	12.375	3.000	6.125	7.375	1.000	8.000	4.438	2.313	50214	48003 (8)	48003 (8)	48003 (8)
	5GR46																
	5GR40																
7	6GR52	6	8.375	12.625	12.000	15.000	3.500	6.625	8.750	1.125	9.375	4.812	2.437	49508	49537	48506	48506
	6GR62																
8	1GR4	1	1.687	3.187	2.813	4.250	1.375	2.250	2.625	.500	3.500	2.313	1.250	49760 (1)	---	49761 (1)	49761 (1)
	1GR5																
	1GR7																
	1GR11																

APPROVED: 9-19-67

REVISED: (F) CHANGED APPROVED VENDOR ON SHEET 2. 10-2-92

CLAMP ASSEMBLY

KC155

STANDARD PART

CUSTODIAN: JOHN F. KENNEDY SPACE CENTER

PROCUREMENT SPEC. NONE

COORDINATION STATUS KSC DE

SHEET 3 OF 3

KSC FORM 32-85 (CC 4/92)

FED SUP CLASS 4730

GP-425