

SECTION I

FROM: _____

TO: SHOP STORES OFFICER, CENTRAL SHOP STORES BRANCH DATE: 5 Feb 1976

1. FSN/MFR PART NO. <u>8120-00-178-9814</u>		2. REFERENCE PUBLICATION		3. MFR MAKE AND MODEL OR EQUIP ID NO.	
4. UNIT PRICE.	5. UNIT OF ISSUE <u>EA</u>	6. 30 DAY USAGE <u>2</u>	7. DATE REQUIRED <u>ASAP</u>	8. ISSUE POINT REQUIRED <u>72</u>	

9. DESCRIPTION: Hood, date, for 225 cf Acetylene cylinders
cap, compressed Gas cylinder, steel

SIGNATURE Jane O'Connell

SECTION II

FROM: SHOP STORES OFFICER, CENTRAL SHOP STORES BRANCH DATE: _____

TO: TECH AND RESEARCH, STOCK CONTROL BRANCH CONTROL NO: 9631

RESEARCH

CATALOG

DOCUMENT NUMBER			120 DAY QUANTITY				MARK FOR			
U/I	U/P	MEC	SAC	SMC	MC	RD	O/H	OBLIG	DUE	
<u>EA</u>	<u>238</u>	<u>G2</u>	<u>1</u>	<u>✓</u>						

REMARKS: S9G-A

Catalogued MLV
RESEARCHED
BY R. H. Herdison
DATE FEB 12 1976

(EO4 Attached)

SIGNATURE E. Burgess
OFFICER IN CHARGE, CENTRAL SHOP STORES

RECEIVED
FEB 10 2 58 AM '76
TECHNICAL & RESEARCH
BASE MATERIAL BATTALION
CAMP LEJEUNE, N.C.

DATE RECEIVED BY

RECEIVED BY

RECEIVED BY

RECEIVED BY

5
6
7

4188 855-00-2518

8130-00-268-3360

NEW ITEM/DELETE NOTICE
MCBCL 4400 (REV. 12-89)

Section 1

FROM: _____ DATE: _____

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

END ITEM - IF APPLICABLE			TEMPORARY OR PERMANENT REQUIREMENT		
1. NSN/MFR PART NR		2. REFERENCE PUBLICATION		3. MFR MAKE AND MODEL OR EQUIP NR	
4. UNIT PRICE	5. UNIT OF ISSUE	6. 30 DAY USAGE	7. DATE REQUIRED	8. ISSUE PT REQUIRED	

9. DESCRIPTION

SIGNATURE: _____

Section II

DATE: _____

CONTROL NO: _____

FROM: Officer in Charge, Systems Management and Development Branch

TO: _____

APPROVED DISAPPROVED CATALOG DELETE RESEARCH

REMARKS:

SIGNATURE: _____

Section III

DATE: 11/31/96

FROM: Officer in Charge, Support Division, Technical and Research Branch

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

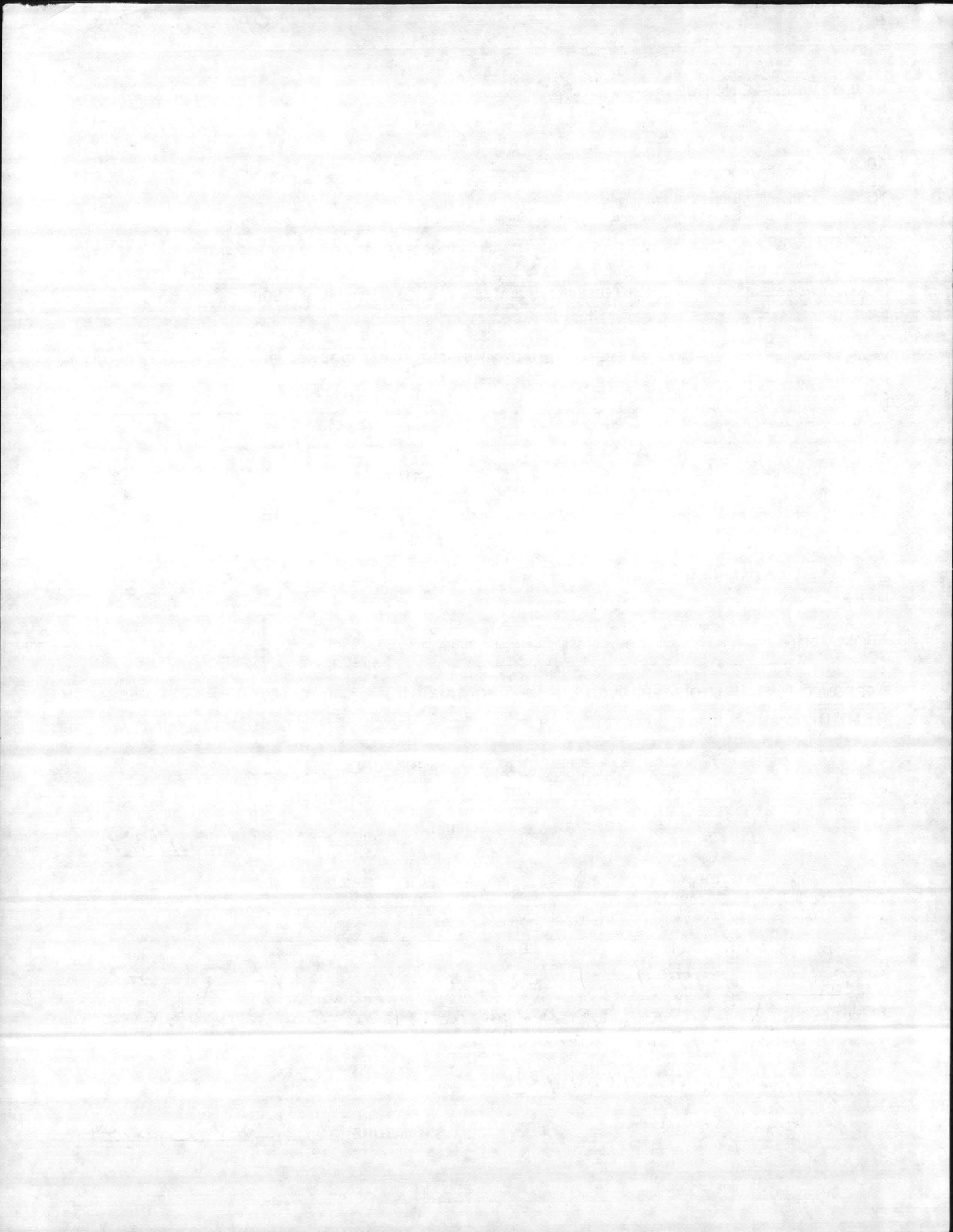
U/I	UP	SAC	MEC	HAZ	SLC	SSRIC	DEMIL
<i>Ea</i>	<i>173.11</i>	<i>1</i>	<i>G2</i>	<i>A</i>	<i>0</i>	<i>S9E</i>	<i>A</i>

REMARKS: *cy liner, compressed gas, acetylene, technical, 11 1/2 X 12 1/2 dia, 225 cu. ft. 6830-00-270-8216*

P/N: MIL-C-3701 (mil spec)

cage: 81349

SIGNATURE: *Henry C. W. [Signature]*



File

NEW ITEM/DELETE NOTICE

MCBCL 4400 (REV 2-80)

Section 1

FROM: Smad

DATE: 1/22/86

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

1. NSN/MFR PART NR <u>8120 00285 4733</u>		2. REFERENCE PUBLICATION		3. MFR MAKE AND MODEL OR EQUIP NR <u>MFR CODE 36346 P/N MC</u>	
4. UNIT PRICE <u>26.53</u>	5. UNIT OF ISSUE <u>EA</u>	6. 30 DAY USAGE <u>2</u>	7. DATE REQUIRED <u>ASAP</u>	8. ISSUE PT REQUIRED <u>MLV 70</u>	

9. DESCRIPTION
 Cylinder for 6830 002865434 (acetylene) initial order GEA
10 CF cylinder size MC SIGNATURE: Ollie Carroe
See attachments

Section II

DATE: 1/22/86

CONTROL NO: SMAD-066

FROM: Officer in Charge, Systems Management and Development Branch

TO: _____

APPROVED DISAPPROVED CATALOG DELETE RESEARCH

REMARKS:

SIGNATURE: [Signature]

Section III

DATE: 1/23/86

FROM: Officer in Charge, Support Division, Technical and Research Branch

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

NO ADAPTION NEEDED

U/I <u>EA</u>	U/P <u>26.53</u>	MEC <u>G2</u>	SAC <u>1</u>	SSRIC <u>S9G</u>	DEMIL <u>A</u>
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REMARKS:

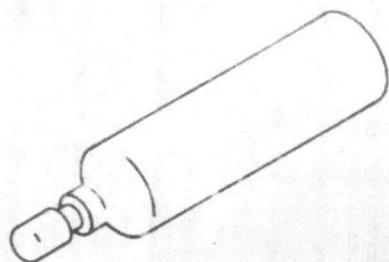
Cylinder (COMPRESSED GAS, ACETYLENE, 10 CF CAPACITY,
 12.5 INCHES HIGH X 4 INCHES O.D.)

SIGNATURE: [Signature]

RECEIVED

JAN 23 9 43 AM '86

TECHNICAL & RESEARCH
BASE MATERIAL BATTALION
CAMP LEJEUNE, NC



STYLE 1
BOTTLE TYPE

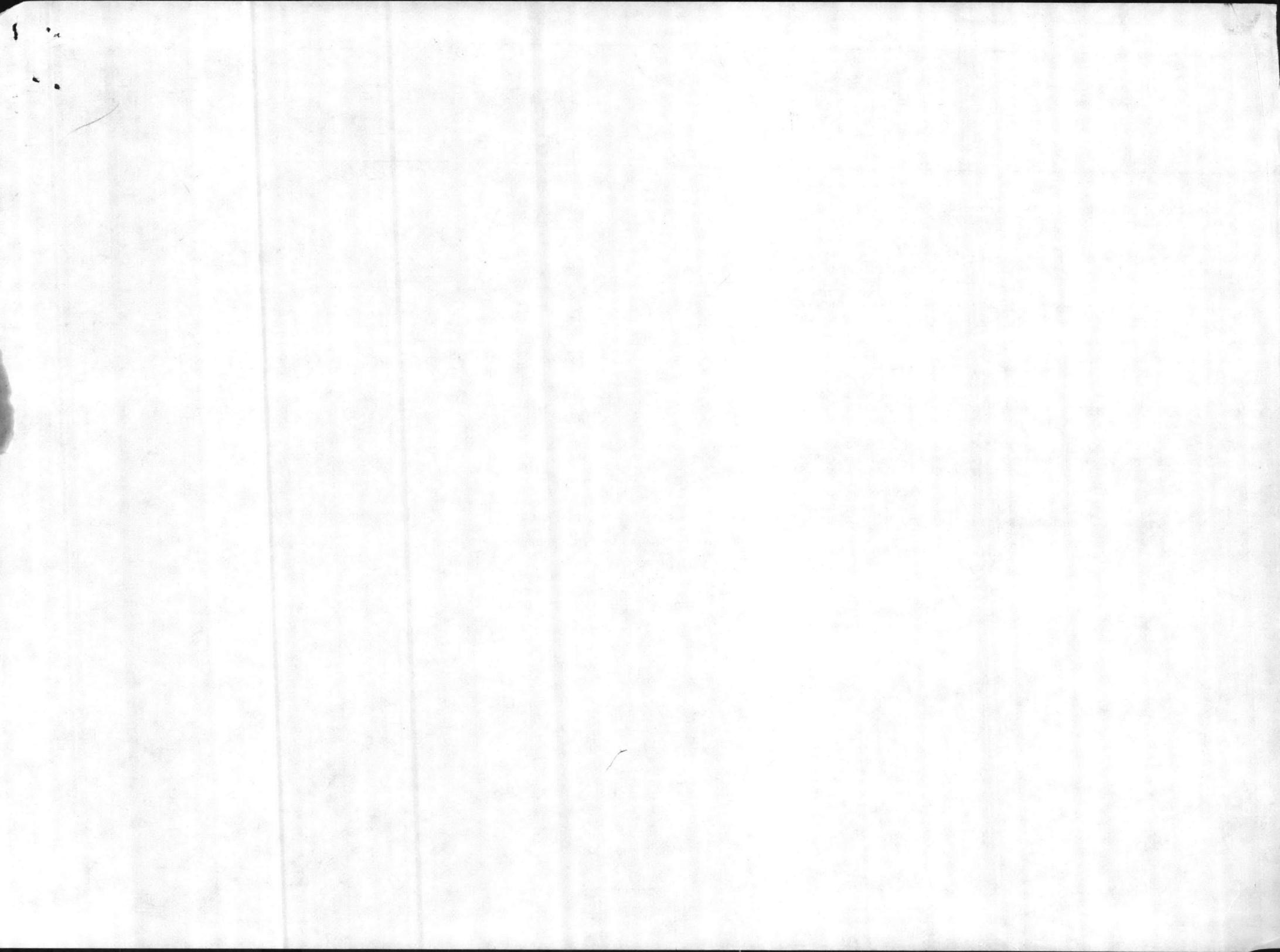
CYLINDER, COMPRESSED GAS

STYL	MAX OPER PRES-SURE	O/A H IN.	CROSS SECT. OD IN.	NECK CLO-SURE	ADDITIONAL INFORMATION		
					SHATTERPROOF FEATURE N/INCL		
01	00-268-3361	1	480 PSI	51	9.156	PROV	INT NECK THD, EXT NECK THD; BROWN BODY; COLOR CODED PART A BROWN; PART B BROWN; PART C BROWN; CODED FOR CHLORINE GAS; 150 LB NOM CAP.
02	00-285-4736	1	480 PSI	51	15	PROV	INT NECK THD, EXT NECK THD; ORANGE BODY; COLOR CODED PART A BROWN; PART B YELLOW; PART C ORANGE; CODED FOR AMMONIA GAS; 150 LB NOM CAP.; FSCM 96906, SPEC M539219-2
03	00-175-8549	1	480 PSI	53	12	PROV	INT NECK THD, EXT NECK THD; ORANGE BODY; COLOR CODED PART A BROWN; PART B YELLOW; PART C ORANGE; CODED FOR AMMONIA GAS; 100 LB NOM CAP.
04	00-285-4739	1	480 PSI	53	12	PROV	INT NECK THD, EXT NECK THD; ORANGE BODY; COLOR CODED PART A BROWN; PART B YELLOW; PART C ORANGE; CODED FOR AMMONIA GAS; 100 LB NOM CAP.; SPCL FEAT. REV B MIL-C-11733
05	00-285-4733	1	600 PSI	12.5	4	PROV	INT NECK THD, EXT NECK THD; YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; CODED FOR ACETYLENE GAS; 10 CU FT NOM CAP.
06	00-663-3019	1	600 PSI	20	6	PROV	INT NECK THD, EXT NECK THD; YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; CODED FOR ACETYLENE GAS; 40 CU FT NOM CAP.
07	00-598-5973	1	600 PSI	22	7	PROV	INT NECK THD, EXT NECK THD; YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; 50 CU FT NOM CAP.

S9G/EA/26.53 / "D"

(17)

→ 318.36



IDENTIFICATION OF GASES IN CYLINDERS

Identification of the gas content of compressed gas cylinders is established by means of the chemical or trade name of the gas marked on the cylinder.

This accepted means of identification is used by the industry in general in conformance with the methods established by the American National Standards Institute (ANSI) under its General Acceptance Method. The provisions apply as set forth in the *American Standard Method of Marking Compressed Gas Cylinders to Identify Gas Content*, published by ANSI.

While cylinders are painted in various colors and combinations of colors, these

colors do not provide identification of gas contents and should not be used for that purpose. Suppliers do not intend that users rely on cylinder color to identify gas content.

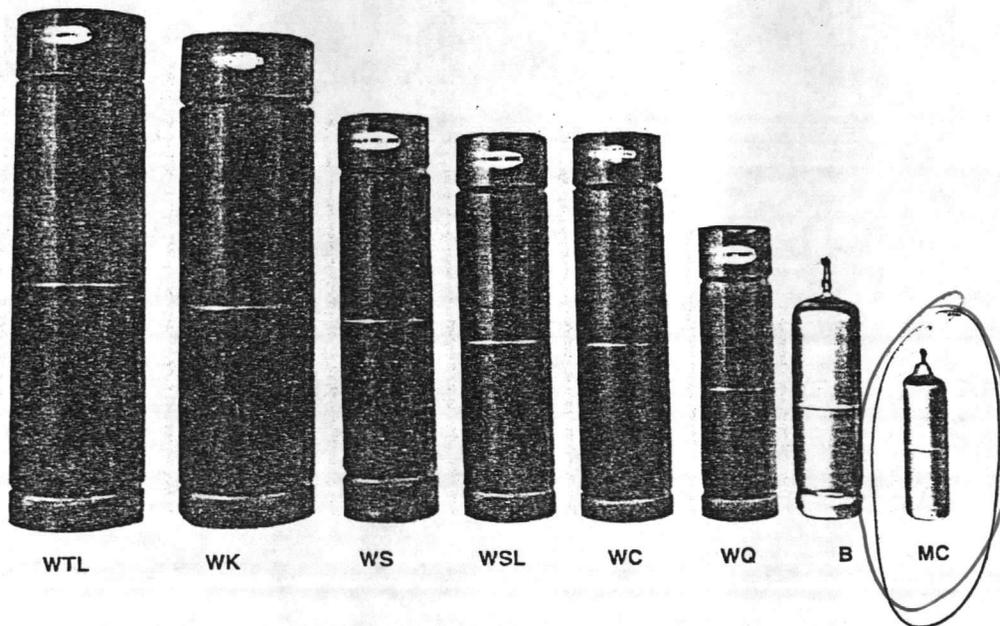
There are many reasons why cylinder colors cannot serve as a dependable key to cylinder contents. For example:

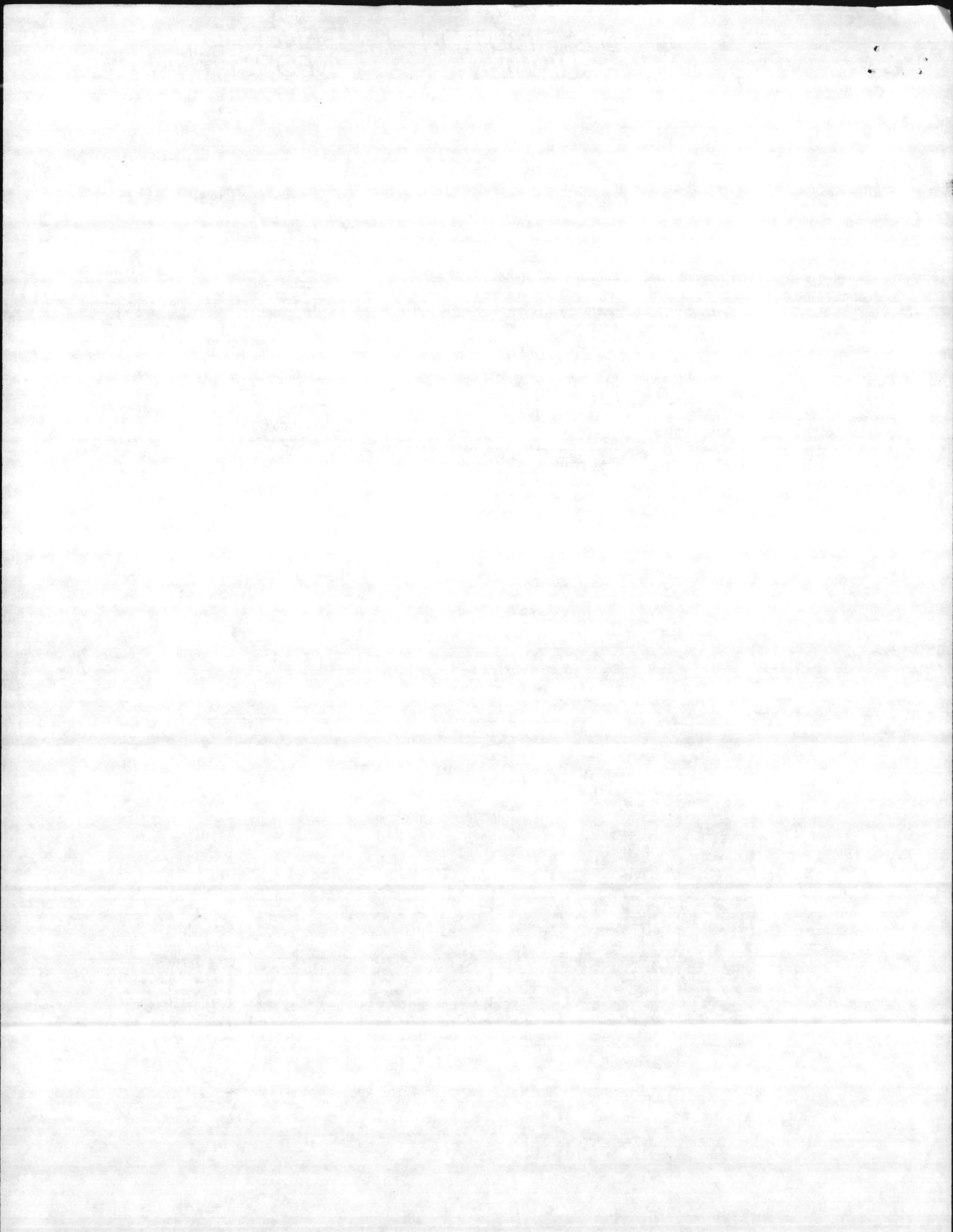
1. There are hundreds of gases and combinations of gases. To use a separate color or color combination to identify each gas would lead to mistakes.
2. Compressed gas cylinders receive hard service that may damage, discolor, or conceal paint.

3. Many people have defective color vision and cannot distinguish between certain colors.
4. Colors appear differently under some light sources such as fluorescent and mercury vapor lamps.
5. Some suppliers use cylinder colors unlike those used for the same gas by other suppliers.

For these reasons, it is *important* that users should *identify gas contents of cylinders by reading the cylinder marking*. DO NOT be influenced by cylinder color.

ACETYLENE CYLINDERS





CYLINDER AND VALVE DATA

OXYGEN, NITROGEN AND MIXTURES THEREOF

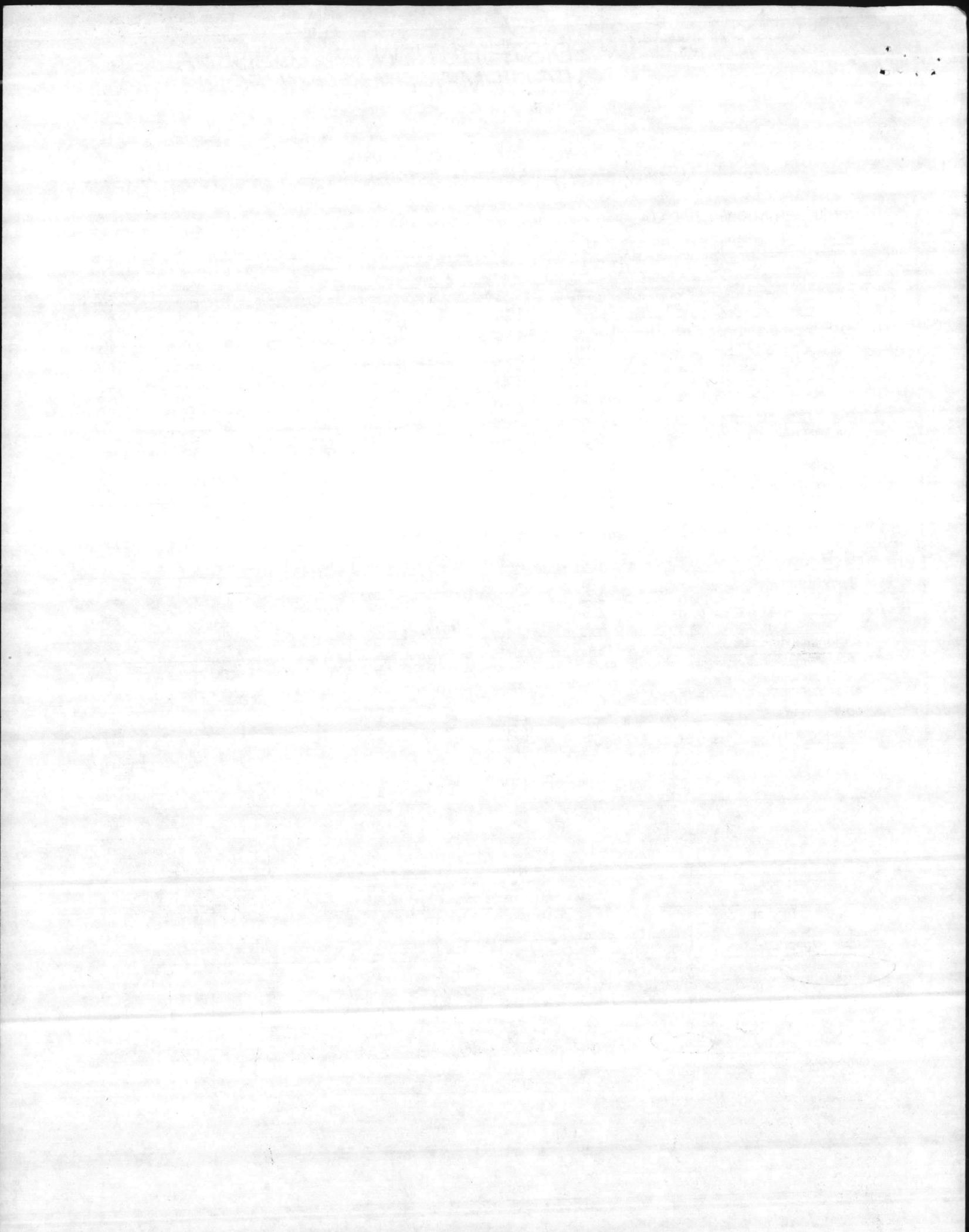
Gas	Cylinder Style	Contents (cf)	Full Cyl. Pressure at 70° F. (psi)	Height incl. Cap. (in.)	Outside Diameter (in.)	Approximate Weight		Cylinder Valve Outlet Connection CGA No.
						Full (lb.)	Empty (lb.)	
OXYGEN	T	330	2,640	60	9-1/4	172	146	540
	K, KL	244	2,200	56	9	153	133	540
	LK	244	2,200	56	8-15/16	134	114	540
	D	122	2,200	48	7-1/2	126	116	540
	E, Y	122	2,200	48	7	92	82	540
	Q	80	2,200	35	7-1/8	70	65	540
	XL	70	2,200	41	6	54	49	540
	S	150	2,200	51	7-3/8	92	80	540
	R	20	2,200	19	5-3/16	13-1/2	12	540
LIQUID OXYGEN	LS-110	3,350	—	58	20	517	240	—
	LS-156	4,200	—	62	20	572	224	—
	GP/30	3,000	—	58	20	468	220	540
	GP/45	4,500	—	62-1/4	20	623	250	540
OXYGEN-NITROGEN	K	*	2,200	56	9	*	133	540†
NITROGEN	T, TL	300	2,640	60	9-1/4	165	143	580
	K	224	2,200	56	9	149	133	580
	D	112	2,200	48	7-1/2	124	116	580
	S	138	2,200	51	7-3/8	90	80	580
	Q	73	2,200	35	7-1/8	70	65	580
	R	18	2,200	19	5-3/16	13-1/2	12	580
LIQUID NITROGEN	LS-110	2,700	—	58	20	435	240	—
	LS-156	3,410	—	62	20	471	224	—
	LS-160B	3,930	—	58	20	503	218	—
	GP/30	2,440	—	58	20	399	220	580
	GP/45	3,640	—	62-1/4	20	514	250	580
NITROGEN-HYDROGEN	HK	*	2,000	56	9	*	133	350

*Dependent on relative proportions of component gases. †Less than 5% oxygen, CGA 580; 5-23% oxygen, CGA 590; over 23% oxygen, CGA 296.

AIR, HYDROGEN, ACETYLENE AND FG-2

COMPRESSED AIR (For industrial and breathing purposes)	T	305	2,640	60	9-1/4	172	146	346
	K, KL	229	2,200	56	9	150	133	346
	LK	229	2,200	56	9	131	114	346
	D	116	2,200	48	7-1/2	124	116	346
	E, Y	116	2,200	48	7	90	82	346
	Q	77	2,200	35	7-1/8	71	65	346
	S	136	2,200	51	7-3/8	90	80	346
	R	19	2,200	19	5-3/16	13-1/4	12	346
	HYDROGEN	HE	96	2,000	48	7	81-1/2	81
D, HD		104	2,000	48	7-1/2	116-1/2	116	350
H, HK		191	2,000	56	9	134	133	350
HS		118	2,000	51	7-3/8	78-1/2	78	350
T		*	2,400	60	9-1/4	145	143	350
K		*	2,000	56	9	134	133	350
HYDROGEN-ARGON	T	*	2,400	60	9-1/4	*	143	350
	K	*	2,000	56	9	*	133	350
HYDROGEN-NITROGEN	T	*	2,400	60	9-1/4	*	143	350
	K	*	2,000	56	9	*	133	350
LIQUID HYDROGEN	LSH-150	4,500	—	58	20	189-1/2	166	—
ACETYLENE	WTL	390	250	44-3/8	12-1/2	207	180	510
	WK	304	250	42	12-7/8	245	223	510
	WSL	130	250	33-1/2	8-1/2	78	69	510
	WS	130	250	35-1/2	8-1/2	79	70	510
	WC	111	250	37-1/2	8-1/2	94	87	510
	WQ	60	250	24-1/4	7-5/8	56	52	510
	B	40	250	23	6-1/4	26	23-1/2	520
	MC	10	250	14	4	8	7	200
	LINDE FG-2	FC	470*	137	52-1/4	10	109	55
FG		939†	137	50-1/2	14.5	174	70	510

*Equivalent to 52 lb. †Equivalent to 104 lb.



NEW ITEM/DELETE NOTICE

MCBCL 4400 (REV 2-80)

Section 1

FROM: Amad

DATE: 8/25/86

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

1. NSN/MFR PART NR <u>8120005318193</u>		2. REFERENCE PUBLICATION		3. MFR MAKE AND MODEL OR EQUIP NR	
4. UNIT PRICE <u>117.56</u>	5. UNIT OF ISSUE <u>EA</u>	6. 30 DAY USAGE <u>initial order 6</u>	7. DATE REQUIRED	8. ISSUE PT REQUIRED <u>MLV70</u>	

9. DESCRIPTION

empty cylinder for 6830 00 1042654
130 lb cylinder

SIGNATURE: Ollie Carroce

Section II

DATE: 8/25/86

CONTROL NO: Amad 872

FROM: Officer in Charge, Systems Management and Development Branch

TO: JL

APPROVED DISAPPROVED CATALOG DELETE RESEARCH

REMARKS:

SIGNATURE: Jm Hatcher

Section III

DATE: 8/26/86

FROM: Officer in Charge, Support Division, Technical and Research Branch

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

IL 3/A12/2

U/I <u>EA</u>	U/P <u>117.56</u>	MEC <u>G2</u>	SAC <u>1</u>	SSRIC <u>S9G</u>	DEMIL <u>A</u>
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REMARKS:

CYLINDER COMPRESSED GAS, HALON (BROMOTRIFLUOROMETHANE) GAS, 150 LB CAPACITY, NONDEFINITE SPEC. FOR HALON-GAS 6830 00 104 2654.

BATCH 4101/86239 = TO OLLY 8/27/86

SIGNATURE: San J. N. [Signature]

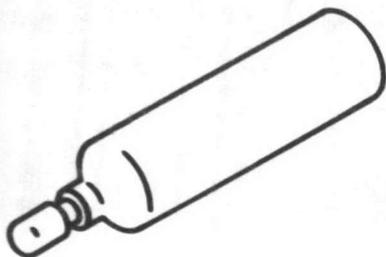


TO: [Faint, illegible text]

FROM: [Faint, illegible text]

A I NSN
 C I 8120
 T

DESCRIPTIVE DATA


 STYLE 1
 BOTTLE TYPE

CYLINDER, COMPRESSED GAS

STYL	MAX OPER PRES-SURE	O/A H IN.	CROSS SECT. OD IN.	NECK CLOSURE

ADDITIONAL INFORMATION

01	00-063-3983	1	300 PSI	49	10.7	PROV

EXT NECK THD, INT NECK THD; 3 1/8-11 NS THD AND SERIES, 3/4-14 NGT THD SIZE AND SERIES; ORANGE BODY; INTERSTATE COMMERCE COMM IDENT NO. 4BA300; COLOR CODED PART A ORANGE; PART B ORANGE; PART C ORANGE; CODED FOR R114 GAS; 150 CU FT NOM CAP.; FURN ITEMS VALVE; FSCM 81348, NONDEFINITIVE SPEC RR-C-910/1

02	00-531-8193	1	400 PSI	36	12.188	PROV

INT NECK THD, EXT NECK THD; 3/4-14 NGT THD SIZE AND SERIES, 3 1/8-11 NS THD SIZE AND SERIES; 1A THD CLASS; RED BODY; INTERSTATE COMMERCE COMM IDENT NO. 4BA OR INTERSTATE COMMERCE COMM IDENT NO. 4BW; COLOR CODED PART A RED; PART B WHITE; PART C GRAY; CODED FOR BROMOTRIFLUOROMETHANE GAS; 150 LB NOM CAP.; FURN ITEMS VALVE; FSCM 96906, SPEC MS39228-2; FSCM 80064, NONDEFINITIVE SPEC 1421496; FSCM 81348, NONDEFINITIVE SPEC RRC910

03	00-175-8554	1	480 PSI	48	8.5	PROV

EXT NECK THD, INT NECK THD; 3 1/8-11 NS THD SIZE AND SERIES, 3/4-14 NGT THD SIZE AND SERIES; BROWN BODY; INTERSTATE COMMERCE COMM IDENT NO. 3A480 OR INTERSTATE COMMERCE COMM IDENT NO. 3AA480; COLOR CODED PART A BROWN; PART B BROWN; PART C BROWN; CODED FOR CHLORINE GAS; 100 LB NOM CAP.; FURN ITEMS VALVE; FSCM 48816, P/N 101141; FSCM 81349, NONDEFINITIVE SPEC MIL-C-11732/1

04	00-285-4722	1	480 PSI	48	10.25	PROV

EXT NECK THD, INT NECK THD; 3 1/8-11 NS THD SIZE AND SERIES, 3/4-14 NGT THD SIZE AND SERIES; BROWN BODY; INTERSTATE COMMERCE COMM IDENT NO. 3A480 OR INTERSTATE COMMERCE COMM IDENT NO. 3AA480; COLOR CODED PART A BROWN; PART B BROWN; PART C BROWN; CODED FOR CHLORINE GAS; 150 LB NOM CAP.; FURN ITEMS VALVE; FSCM

HALON



NEW ITEM/DELETE NOTICE

MCBCL 4400 (REV 2-80)

Section 1

FROM: SMAD

DATE: 4-5-83

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

1. NSN/MFR PART NR <u>8120-00-597-5670</u>		2. REFERENCE PUBLICATION		3. MFR MAKE AND MODEL OR EQUIP NR	
4. UNIT PRICE <u>135.58</u>	5. UNIT OF ISSUE <u>EA</u>	6. 30 DAY USAGE <u>—</u>	7. DATE REQUIRED <u>ASAP</u>	8. ISSUE PT REQUIRED <u>70</u>	

9. DESCRIPTION Cylinder acetylene 125 CF. Qty on hand at Lot 201 but no EOI record.

SIGNATURE: P. Williams

Section II

DATE: _____

CONTROL NO: 264

FROM: Officer in Charge, Systems Management and Development Branch

TO: _____

APPROVED DISAPPROVED CATALOG DELETE RESEARCH

REMARKS:

SIGNATURE: W W Cowan

Section III

DATE: 5 April 1983

FROM: Officer in Charge, Support Division, Technical and Research Branch

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

U/I <u>EA</u>	U/P <u>135.58</u>	MEC <u>G2</u>	SAC <u>1</u>	SSRIC <u>S9G</u>	DEMIL <u>A</u>
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REMARKS:

~~Acetylene in 125 CF Cylinder is stocked at~~
~~Lot 70 NSN 6830-00-292-0137~~

SIGNATURE: W W Cowan

RECEIVED

APR 5 11 31 AM '43

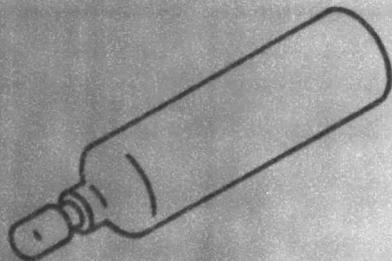
TECHNICAL & RESEARCH
BASE MATERIAL BATTALION
CAMP LEJEUNE, N.C.

L07

IDENTIFICATION LIST - DESCRIPTIVE METHOD

 A I NSN
 C N 8120
 T

DESCRIPTIVE DATA

STYLE 1
BOTTLE TYPE

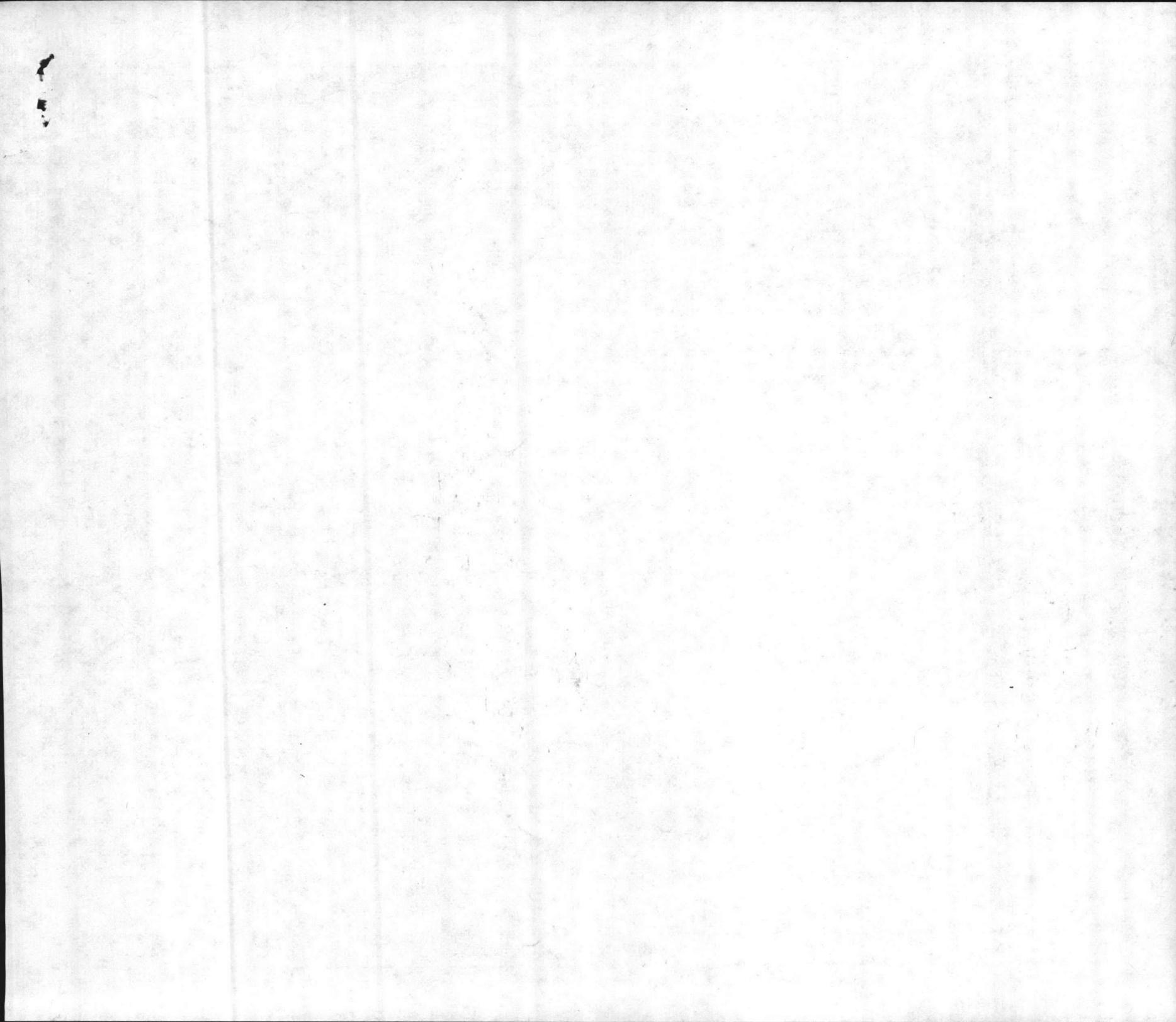
CYLINDER, COMPRESSED GAS

STYL	MAX OPER PRES- SURE	O/A H IN.	CROSS SECT. OD IN.	NECK TND LOC	NECK CLO- SURE
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SHATTERPROOF FEATURE N/INCL

STYL	MAX OPER PRES- SURE	O/A H IN.	CROSS SECT. OD IN.	NECK TND LOC	NECK CLO- SURE	ADDITIONAL INFORMATION
01	480 PSI	53	12	-	PROV	ORANGE BODY; COLOR CODED PART A BROWN; PART B YELLOW; PART C ORANGE; CODED FOR AMMONIA GAS; 100 LB NON CAP.; SPLC FEAT. REVB MIL-C-11753; FSCN 81349, NONDEFINITIVE SPEC MILC11753
02	600 PSI	12.5	4	-	PROV	YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; CODED FOR ACETYLENE GAS; 10 CU FT NON CAP.; FSCN 81349, NONDEFINITIVE SPEC MIL-C-3701; FSCN 36346, P/M NC
03	600 PSI	20	6	-	PROV	YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; CODED FOR ACETYLENE GAS; 40 CU FT NON CAP.; FSCN 81349, NONDEFINITIVE SPEC MIL-C-3701
04	600 PSI	22	7	-	PROV	YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; 50 CU FT NON CAP.; FSCN 81349, NONDEFINITIVE SPEC MIL-C-3701
05	600 PSI	29	12	-	PROV	YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; CODED FOR ACETYLENE GAS; 225 CU FT NON CAP.; FSCN 81349, NONDEFINITIVE SPEC MIL-C-3701
06	600 PSI	32.5	9.5	-	PROV	YELLOW BODY; COLOR CODED PART A YELLOW; PART B YELLOW; PART C YELLOW; CODED FOR ACETYLENE GAS; 190 CU FT NON CAP.; FSCN 81349, NONDEFINITIVE SPEC MIL-C-3701

596 EA 135.58 162



NEW ITEM/DELETE NOTICE

File

MCBCL 4400 (REV 2-80)

Section 1

FROM: Smad

DATE: 1/22/86

TO: Officer in Charge, DSSC Division
(Attn: Systems Management and Development Branch)

S.O.S.
MERRITT-HOLLAND CO
102 BELL FORT RD
TEL 455-4090

1. NSN/MFR PART NR <u>8120 01 Coo 8901</u>		2. REFERENCE PUBLICATION		3. MFR MAKE AND MODEL OR EQUIP NR <u>LINDE UNION CARBIDE CORP OLD RIDGE BLVD RD DANBURY CT 093 794 785 CODE 36376 1/1N STYLE R</u>	
4. UNIT PRICE <u>42.00</u> 50.00	5. UNIT OF ISSUE <u>EA</u>	6. 30 DAY USAGE <u>2</u>	DATE REQUIRED <u>ASA</u>	ISSUE REQUIRED <u>MLV70</u>	

9. DESCRIPTION
R-Type cylinder for 6830 00 564 9035 20CF cylinder initial order 6EA
Load as COO# per V. Hall/R. Waters SIGNATURE: Ollie Carroel

attachment for info only

Section II

DATE: 1/22/86

CONTROL NO: SMAD-067

FROM: Officer in Charge, Systems Management and Development Branch

TO: _____

APPROVED DISAPPROVED CATALOG DELETE RESEARCH

REMARKS:

CGA 540 VALVE
STEEL pu design

SIGNATURE: [Signature]

stretched in (USMC
CLNC)

Section III

DATE: 1/23/86

FROM: Officer in Charge, Support Division, Technical and Research Branch

TO: Officer in Charge, DSSC Division

(Attn: Systems Management and Development Branch)

U/I <u>EA</u>	U/P <u>42.00</u>	MEC <u>SSA</u>	SAC <u>1</u>	SSRIC <u>-</u>	DEMIL <u>A</u>
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REMARKS:

Cylinder (compressed gas) OXYGEN 20CF, STYLE R, 19 inches HIGH
X 5 3/16 inches O.D.

11-2-01. ordered
 thru CAMBAR

SIGNATURE: [Signature]

Needs to be painted green w/ oxygen stenciling per Bill

RECEIVED

JAN 23 9 44 AM '86

TECHNICAL & RESEARCH
BASE MATERIAL BATTALION
CAMP LEJEUNE, N.C.

PURCHASE DESCRIPTION WORKSHEET
MCBCL 4225/2

SPECIFICATIONS

RR-C-901C/1

STOCK NO.

8120 01 Coo 8901

CYLINDER, COMPRESSED GAS, OXYGEN, 20 CF
CAPACITY, 19 INCHES HIGH X 5 3/16 INCHES O.D.,
~~WATER~~ R TYPE, Must be hydrostatically tested prior
to shipment. Marked in accordance with MIL. STD. 101 B

MFG: LINDE-UNION CARBIDE CORP.
OLD RIDGEBURY RD.
DANBURY, CON

MFG: CODE ~~36346~~ 36346

P/N ~~MAAAA~~
STYLE R

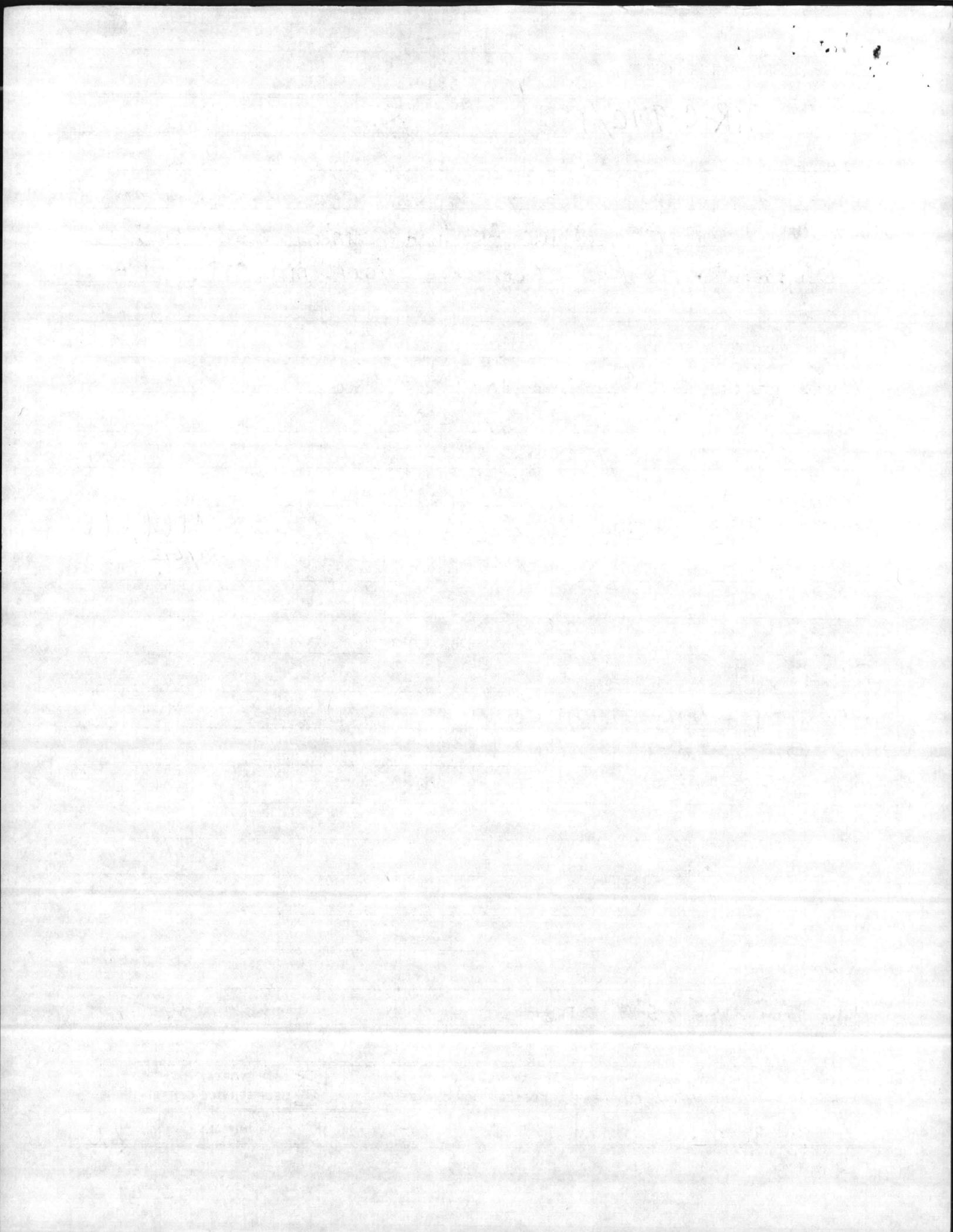
S.O.S.

MERRITT-HOLLAND Co
102 BELL FORK Rd.
TEL 755-4090

2ND COPY TO P&C 2/2/86

Chg to P&C 8-5-88 mws

U/I EA	U/P 42.00	<input checked="" type="checkbox"/> NEW ITEM	<input checked="" type="checkbox"/> SHOP STORES
		<input type="checkbox"/> DESCRIPTION CHANGE	<input type="checkbox"/> SELF SERVICE CENTER
DATE	1/23/86		INITIALS HJN



CYLINDER AND VALVE DATA

OXYGEN, NITROGEN AND MIXTURES THEREOF

Gas	Cylinder Style	Contents (cf)	Full Cyl. Pressure at 70° F. (psi)	Height incl. Cap. (in.)	Outside Diameter (in.)	Approximate Weight		Cylinder Valve Outlet Connection CGA No.
						Full (lb.)	Empty (lb.)	
OXYGEN	T	330	2,640	60	9-1/4	172	146	540
	K, KL	244	2,200	56	9	153	133	540
	LK	244	2,200	56	8-15/16	134	114	540
	D	122	2,200	48	7-1/2	126	116	540
	E, Y	122	2,200	48	7	92	82	540
	Q	80	2,200	35	7-1/8	70	65	540
	XL	70	2,200	41	6	54	49	540
	S	150	2,200	51	7-3/8	92	80	540
	R	20	2,200	19	5-3/16	13-1/2	12	540
	LIQUID OXYGEN	LS-110	3,350	—	58	20	517	240
LS-156		4,200	—	62	20	572	224	—
GP/30		3,000	—	58	20	468	220	540
GP/45		4,500	—	62-1/4	20	623	250	540
OXYGEN-NITROGEN	K	*	2,200	56	9	*	133	540†
NITROGEN	T, TL	300	2,640	60	9-1/4	165	143	580
	K	224	2,200	56	9	149	133	580
	D	112	2,200	48	7-1/2	124	116	580
	S	138	2,200	51	7-3/8	90	80	580
	Q	73	2,200	35	7-1/8	70	65	580
	R	18	2,200	19	5-3/16	13-1/2	12	580
LIQUID NITROGEN	LS-110	2,700	—	58	20	435	240	—
	LS-156	3,410	—	62	20	471	224	—
	LS-160B	3,930	—	58	20	503	218	—
	GP/30	2,440	—	58	20	399	220	580
	GP/45	3,640	—	62-1/4	20	514	250	580
NITROGEN-HYDROGEN	HK	*	2,000	56	9	*	133	350

*Dependent on relative proportions of component gases. †Less than 5% oxygen, CGA 580; 5-23% oxygen, CGA 590; over 23% oxygen, CGA 296.

AIR, HYDROGEN, ACETYLENE AND FG-2

COMPRESSED AIR (For industrial and breathing purposes)	T	305	2,640	60	9-1/4	172	146	346
	K, KL	229	2,200	56	9	150	133	346
	LK	229	2,200	56	9	131	114	346
	D	116	2,200	48	7-1/2	124	116	346
	E, Y	116	2,200	48	7	90	82	346
	Q	77	2,200	35	7-1/8	71	65	346
	S	136	2,200	51	7-3/8	90	80	346
	R	19	2,200	19	5-3/16	13-1/4	12	346
HYDROGEN	HE	96	2,000	48	7	81-1/2	81	350
	D, HD	104	2,000	48	7-1/2	116-1/2	116	350
	H, HK	191	2,000	56	9	134	133	350
	HS	118	2,000	51	7-3/8	78-1/2	78	350
	T	*	2,400	60	9-1/4	145	143	350
	K	*	2,000	56	9	134	133	350
HYDROGEN-ARGON	T	*	2,400	60	9-1/4	*	143	350
	K	*	2,000	56	9	*	133	350
HYDROGEN-NITROGEN	T	*	2,400	60	9-1/4	*	143	350
	K	*	2,000	56	9	*	133	350
LIQUID HYDROGEN	LSH-150	4,500	—	58	20	189-1/2	166	—
ACETYLENE	WTL	390	250	44-3/8	12-1/2	207	180	510
	WK	304	250	42	12-7/8	245	223	510
	WSL	130	250	33-1/2	8-1/2	78	69	510
	WS	130	250	35-1/2	8-1/2	79	70	510
	WC	111	250	37-1/2	8-1/2	94	87	510
	WQ	60	250	24-1/4	7-5/8	56	52	510
	B	40	250	23	6-1/4	26	23-1/2	520
	MC	10	250	14	4	8	7	200
LINDE FG-2	FC	470*	137	52-1/4	10	109	55	510
	FG	939†	137	50-1/2	14.5	174	70	510

*Equivalent to 52 lb. †Equivalent to 104 lb.

LINDE® GAS DISTRIBUTION EQUIPMENT

Linde maintains complete step-by-step control over the manufacture of its unexcelled range of gas distribution and storage equipment. Cylinders and containers are designed to meet the highest industry standards. All LINDE cylinders meet or exceed applicable DOT specifications, whatever the application, your Linde supplier has the equipment to meet your exact gas requirements.

High-Pressure Cylinders

Since gases have a relatively low density, a given volume of gas at atmospheric pressure can be considerably reduced by compressing it into a cylinder under greater pressure. These cylinders must be constructed to withstand the high pressures involved. LINDE high-

pressure gas cylinders not only meet DOT specifications but must also meet additional rigid specifications established by Linde. Quality control, from chemical analysis of molten steel to final testing, is rigidly controlled. A variety of cylinders sizes is available for all industrial gases.

LINDE Acetylene Cylinders

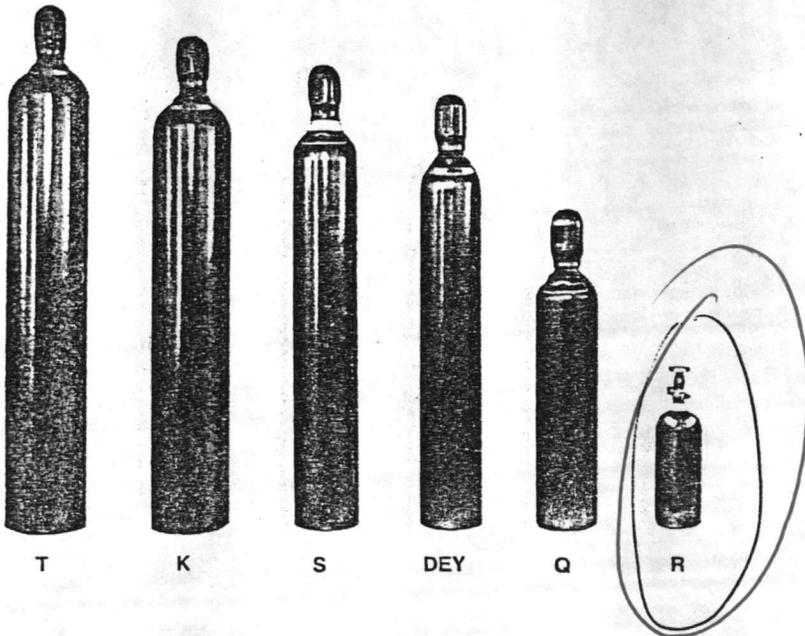
Although acetylene is compressed into cylinders at a lower pressure than other industrial gases, LINDE acetylene cylinders are manufactured to the same high standards as those used for other gases. Acetylene in commercial cylinders is supplied dissolved in acetone since acetone will hold more than 400 times its own volume of dissolved acety-

lene at 70°F and 250 psi full cylinder pressure. Linde has developed a special filler to retain the acetylene-acetone solution. This exclusive high porosity filler provides reduced cylinder weight, increased cylinder capacity and improved charging and discharging rates.

LINDE FG-2 Low-Pressure Cylinders

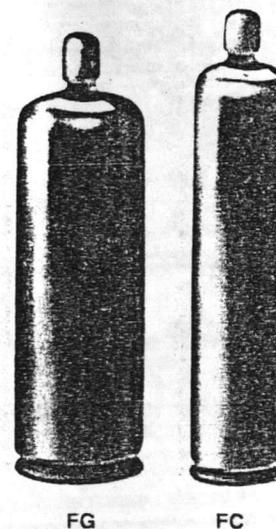
LINDE FG-2 fuel gas is shipped and stored in cylinders manufactured in accordance with DOT specification 4BA for appropriate service pressure. As with all other LINDE cylinders they must also meet Linde's own stringent specifications.

HIGH-PRESSURE CYLINDERS



\$ 42.00

FUEL GAS CYLINDERS



*MERRITT-HOLLAND Co
102 BELL Fork Rd
755-4090*

00-247-9614

1

2015
PSI

51

9.12

INT NECK THD; GRAY BODY; COLOR CODED PART A
PART B BLACK; PART C BLACK; CODED FOR NITROGEN GAS; 200 CU
NOM CAP.; SPCL FEAT. USE WITH AIR ILLARY RECOIL MECHANISMS

DOY

IDENTIFICATION LIST - DESCRIPTIVE METHOD

NSN
812J

DESCRIPTIVE DATA

CYLINDER, COMPRESSED GAS

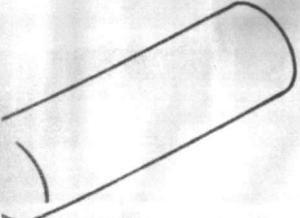
MAX OPER PRES- STYL	O/A H IN.	CROSS SECT. OD IN.	NECK CLO- SURE
SURE			

ADDITIONAL INFORMATION

SHATTERPROOF FEATURE INCL

00-247-9614

FSCM 00000, P/N D650404STYPM1



PE

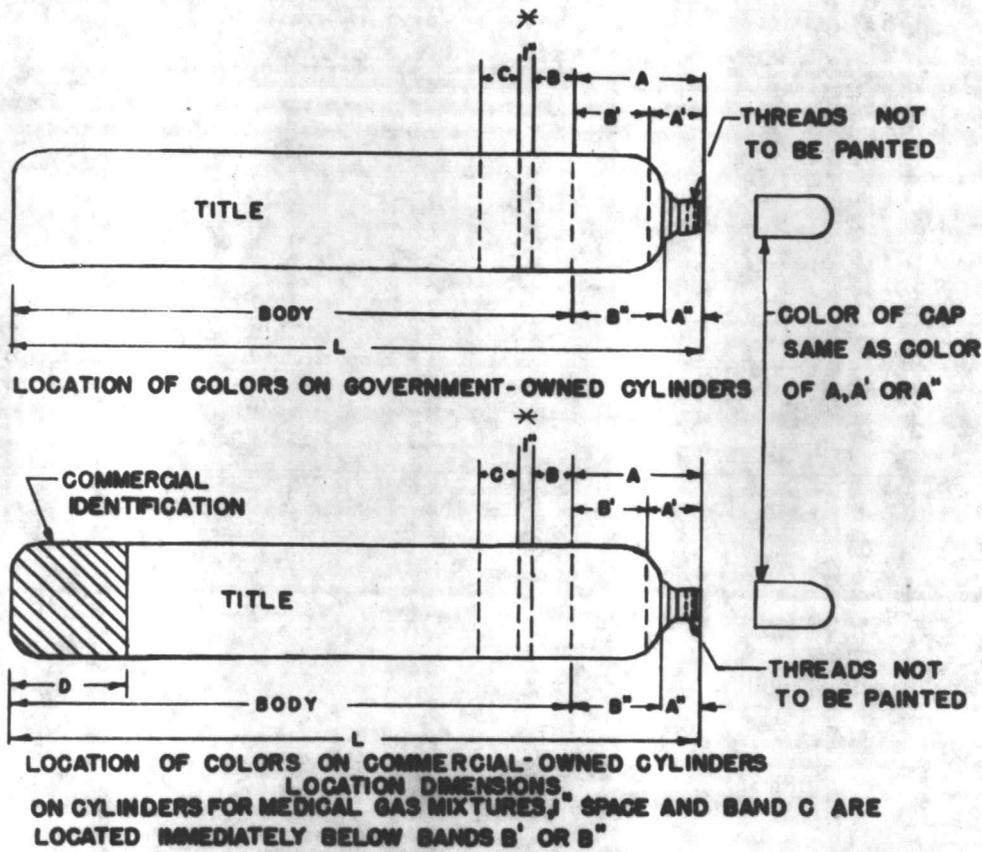
1-134-9896	1	2015 PSI	-	-	PROV	RED BODY; COLOR CODED PART A RED; PART B GRAY; PART C GRAY; CODED FOR NITROGEN GAS; 110 CU FT NOM CAP.; FSCM 03670, P/N 63874
0-804-7986	1	2200 PSI	51	9.12	N/PROV	INT NECK THD, EXT NECK THD; GRAY BODY; COLOR CODED PART A GR PART B BLACK; PART C GRAY; CODED FOR NITROGEN GAS; 200 CU FT CAP.; FSCM 02413, P/N 5U421
1-135-2598	1	2200 PSI	54	6.625	PROV	EXT NECK THD, INT NECK THD; RED BODY; COLOR CODED PART A RED PART B GRAY; PART C GRAY; CODED FOR AIR TROGEN GAS; 110 CU FT CAP.; SPCL FEAT. STAINLESS STEEL; NONMAGNETIC; FSCM 03670, P 63875
1-145-7838	1	2265 PSI	16.812 AND 17.188	3.75 AND 4.25	PROV	EXT NECK THD, INT NECK THD; 10 CU FT NOM CAP.; DESIGNED FOR CALIBRATING GAS MIXTURE GAS
0-285-1576	1	2265 PSI	17.5 AND 18.5	5.25 AND 5.5	PROV	INT NECK THD, EXT NECK THD; GREEN BODY; COLOR CODED PART A GREEN; PART B GREEN; PART C GREEN; CODED FOR OXYGEN GAS; 27 CU FT NOM CAP.
0-753-4580	1	2265 PSI	18	7	PROV	INT NECK THD, EXT NECK THD; BLACK BODY; COLOR CODED PART A BLACK; PART B GREEN; PART C GREEN; CODED FOR AIR GAS; 40 CU NOM CAP.

S9G/EA/63.93
83.80 "D"

RTYPE CYLINDER 1/22/86
LOAD AS COO #
per R. Waters Van Hare

18

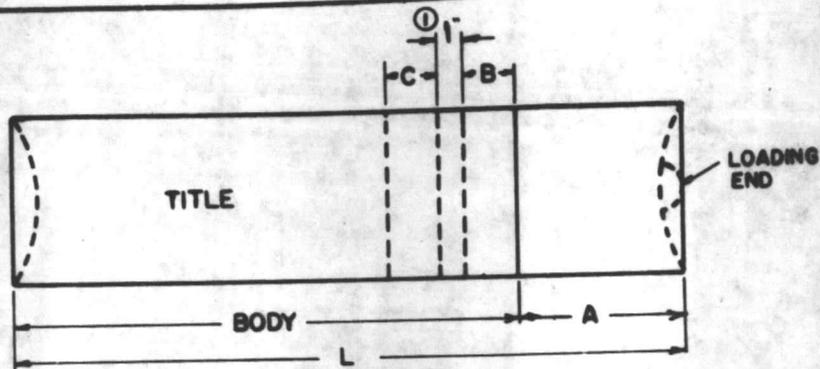
1508.40



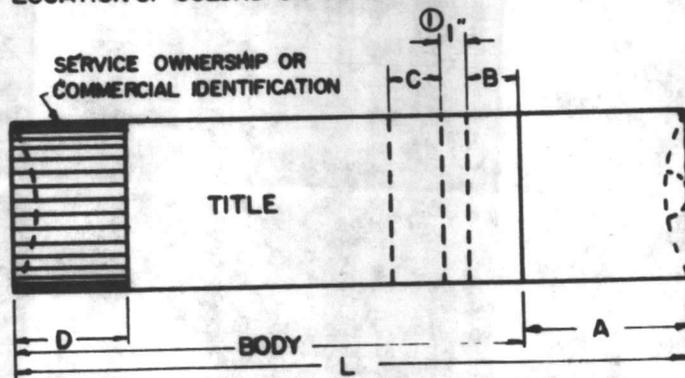
CYLINDERS FOR	OVERALL LENGTH L	SHOULDER COLOR (S)			CYLINDER COLOR BAND (S)				COMMERCIAL IDENTIFICATION D
		A	A'	A''	B	B'	B''	C	
MEDICAL GAS MIXTURES	OVER 30"	L/5	3 1/2"	—	—	ALESSA	—	3"	L/6
OTHER GASES	"	L/5	—	—	3"	—	—	3"	L/6
MEDICAL GAS MIXTURES	30" AND UNDER	L/5	—	—	—	—	ALESSA	2"	L/6
OTHER GASES	"	L/5	—	—	2"	—	—	2"	L/6

*1" SPACE TO BE OMITTED IF BANDS B & C ARE OF DIFFERENT COLORS

Figure 2. Bottle type cylinders



LOCATION OF COLORS ON GOVERNMENT-OWNED CYLINDERS



LOCATION OF COLORS ON COMMERCIAL-OWNED CYLINDERS

LOCATION DIMENSIONS

OVERALL LENGTH	CAP AND SHOULDER COLOR	CYLINDER COLOR BAND(S)	COMMERCIAL IDENTIFICATION
L	A	B & C	D
OVER 30"	$\frac{1}{4}$ OF L	3"	$\frac{1}{6}$ OF L
30" AND UNDER	$\frac{1}{4}$ OF L	2"	$\frac{1}{6}$ OF L

① 1" SPACE TO BE OMITTED IF BANDS B & C ARE OF DIFFERENT COLORS.

Figure 3. Tube type cylinders

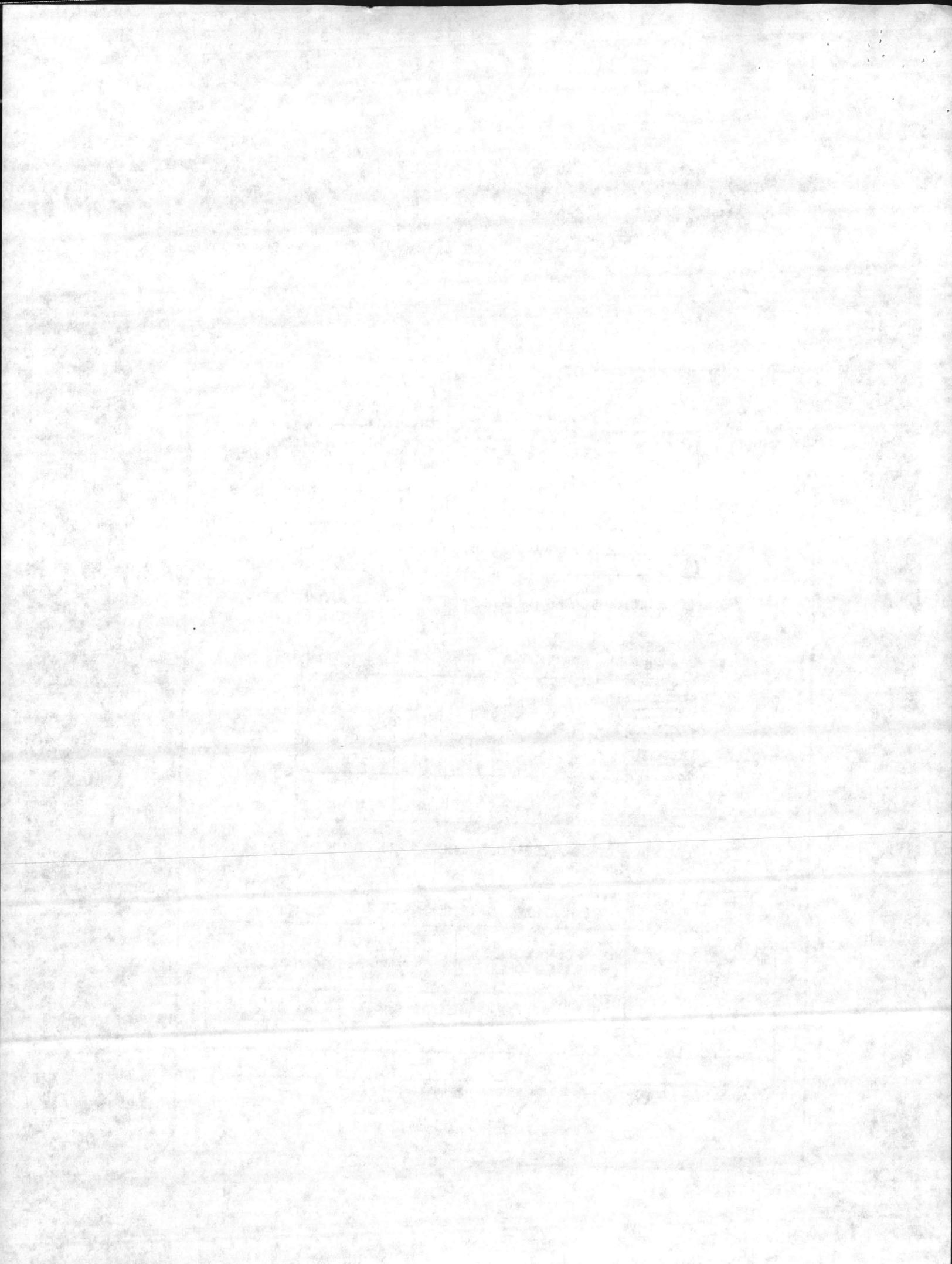


Table III. Titles and color codes for compressed gas cylinders

Title	Location on cylinder			
	Top A	Band B	Band C	Body
Acetylene	Yellow	Yellow	Yellow	Yellow
Acrolein	Yellow	Brown	Black	Brown
Aerosol insecticide	Buff	Buff	Buff	Buff
Air, compressed, breathing	Black	Green	Black	Black
Air, dry, special purpose	Black	Green	Black	Black
Air, oil-free	Black	Green	Black	Black
Air, oil-tolerant	Black	Green	Green	Black
Alkyl decaborane	Yellow	Brown	Brown	Yellow
Alkyl pentaborane	Yellow	Brown	Brown	Yellow
Ammonia	Brown	Yellow	Orange	Orange
Argon, oil-free	Gray	White	Gray	Gray
Argon, oil-tolerant	Gray	White	White	Gray
Argon-oxygen mixture	Gray	Green	White	Gray
Boron trichloride	Gray	Brown	Gray	Brown
Boron trifluoride	Gray	Brown	Brown	Brown
Bromoacetone	Brown	Black	Black	Brown
Bromochloromethane	Buff	Gray	Buff	Buff
Bromochloromethane (Fire only)	Red	Gray	Red	Red
Bromotrifluoromethane	Orange	White	Gray	Orange
Bromotrifluoromethane (Fire only)	Red	White	Gray	Red
Butadiene	Yellow	White	Buff	Buff
Carbon dioxide	Gray	Gray	Gray	Gray
Carbon dioxide (Fire only)	Red	Red	Red	Red
Carbon monoxide	Yellow	Brown	Brown	Brown
Chloroacetone	Black	Brown	Black	Brown
Chlorine	Brown	Brown	Brown	Brown
Chlorine trifluoride	Brown	Green	Brown	Brown
Chloropicrin	Brown	Orange	Orange	Brown
Cyanogen	Yellow	Brown	Yellow	Brown
Cyclopropane, medical	Orange	Yellow	Blue	Blue
Cyclopropane, medical	Orange	Chromium plated		
Diborane	Yellow	Brown	Brown	Yellow
Dibromodifluoromethane	Buff	White	Buff	Buff
Dibromodifluoromethane (Fire only)	Red	White	Red	Red
Difluorochloroethane	Gray	Yellow	Yellow	Orange
Difluoroethane	Gray	Yellow	Orange	Orange
Dihydrotetraborane	Yellow	Brown	Brown	Yellow
Dimethylamine, anhydrous	Yellow	Blue	White	Buff
Dimethylether	Yellow	Brown	Buff	Buff

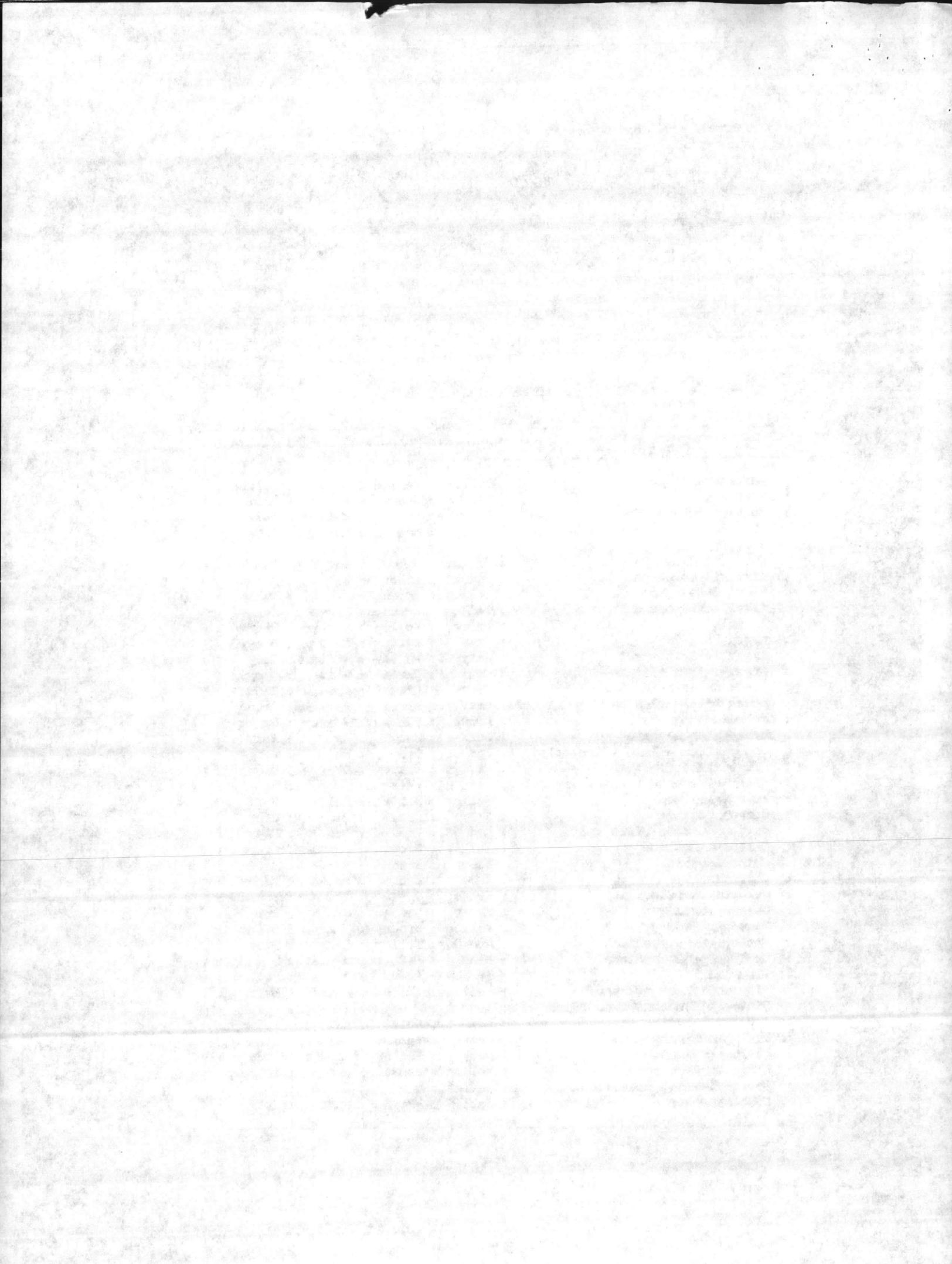


Table III. Titles and color codes for compressed gas cylinders (continued)

Title	Location on cylinder			
	Top A	Band B	Band C	Body
Dispersant, dichlorodifluoro-				
methane-difluoroethane mixture	Buff	Gray	Gray	Buff
Ethane	Yellow	Blue	Yellow	Yellow
Ethyl chloride	Buff	Blue	Yellow	Buff
Ethyl nitrite	Yellow	Buff	Buff	Buff
Ethylamine, anhydrous	Yellow	Blue	Blue	Buff
Ethylene, industrial	Blue	Yellow	Buff	Buff
Ethylene, medical	Yellow	Blue	Blue	Blue
Ethylene oxide	Yellow	Blue	Buff	Buff
Fluorine	Brown	Green	Green	Brown
Fumigant, carbon dioxide-				
ethylene oxide mixture	Buff	Blue	Buff	Buff
Fumigant, ethylene oxide-				
dichlorodifluoromethane mixture	Buff	Buff	Buff	Buff
Helium, oil-free or medical	Buff	Gray	Gray	Gray
Helium, oil-tolerant	Gray	Orange	Gray	Gray
Helium-oxygen mixture	Buff*	White**	Green	Green
Hydrogen	Yellow	Black	Yellow	Yellow
Hydrogen bromide	Black	Brown	Brown	Brown
Hydrogen chloride, anhydrous	Brown	White	Brown	Brown
Hydrogen cyanide, anhydrous	Yellow	Brown	White	Brown
Hydrogen fluoride, anhydrous	Green	Brown	Brown	Brown
Hydrogen sulfide	Brown	Yellow	Brown	Brown
Krypton, oil-free	Gray	Buff	Gray	Gray
Krypton, oil-tolerant	Gray	Buff	Buff	Gray
Manufactured gas: coal, oil,				
water, producer, etc.	Brown	Yellow	Yellow	Yellow
Methane	Yellow	White	Yellow	Yellow
Methyl acetylene propadiene				
(MAPP) mixture	Yellow	Orange	Yellow	Yellow
Methylamine	Yellow	Brown	Yellow	Buff
Methyl bromide	Brown	Black	Brown	Brown
Methyl bromide (Fire only)	Red	Brown	Red	Red
Methyl chloride	Yellow	Brown	Orange	Orange
Methyl mercaptan	Brown	Yellow	Yellow	Brown
Methyl sulfide	Yellow	Brown	Buff	Brown
Methylene chloride	Gray	Blue	Orange	Orange

*A' or A'' (see figure 2) for medical gas mixtures.
 **B' or B'' (see figure 2) for medical gas mixtures.

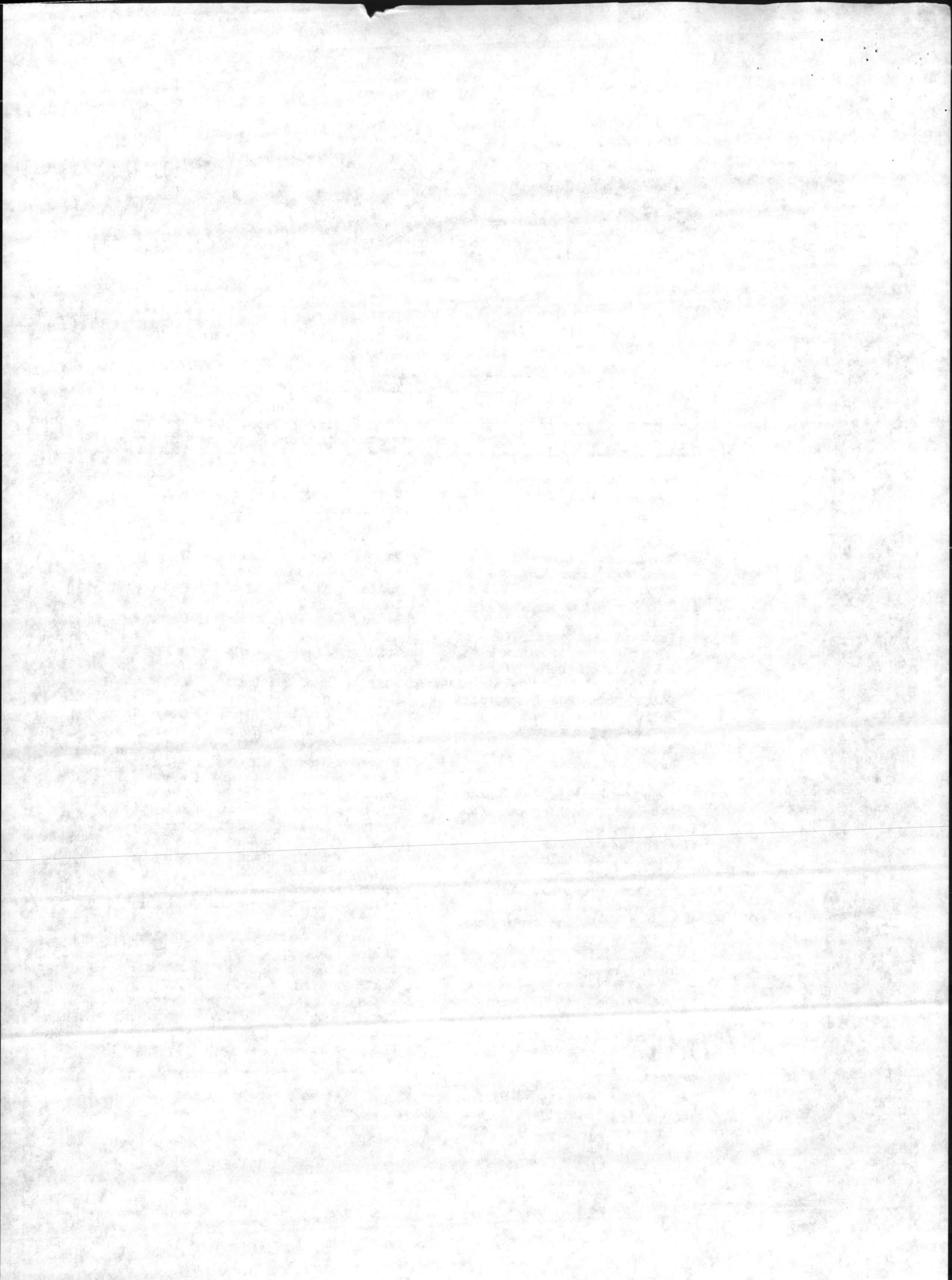


Table III. Titles and color codes for compressed gas cylinders (continued)

Title	Location on cylinder			
	Top A	Band B	Band C	Body
Natural gas	Yellow	Brown	Yellow	Yellow
Neon, oil-free	White	Buff	Buff	Gray
Neon, oil-tolerant	White	Buff	Gray	Gray
Nickel carbonyl	Yellow	White	Yellow	Brown
Nitric oxide	Brown	Buff	Brown	Brown
Nitrogen, oil-free	Gray	Black	Black	Gray
Nitrogen, oil-tolerant	Gray	Black	Gray	Gray
Nitrogen dioxide	Brown	Buff	Buff	Brown
Nitrogen-helium mixture	Gray	Black	Orange	Gray
Nitrogen-oxygen mixture	Black	White	Green	Green
Nitrosyl chloride	Brown	White	White	Brown
Nitrous oxide	Blue	Blue	Blue	Blue
Oxygen	Green	Green	Green	Green
Oxygen, aviator's	Green	White	Green	Green
Oxygen, electrolytic	Green	White	White	Green
Oxygen, medical	White	Green	Green	Green
Oxygen-carbon dioxide mixture	Gray*	White**	Green	Green
Oxygen fluoride	Green	Brown	Green	Brown
Ozone	Brown	Green	Green	Green
Pentaborane, stable	Yellow	Brown	Brown	Yellow
Petroleum gas: acetogen, butane,				
butane-propane, butene-1,				
cyclopropane, isobutane,				
isobutylene, neopentane,				
propane, etc.	Yellow	Orange	Yellow	Yellow
Phenylcarbylamine chloride	Brown	Gray	Gray	Brown
Phosgene	Brown	Orange	Brown	Brown
Propylene	Yellow	Gray	Buff	Buff
Progyne	Gray	Yellow	Yellow	Yellow
R-11, Trichlorofluoromethane	Orange	Orange	Orange	Orange
R-12, Dichlorodifluoromethane	Orange	Orange	Orange	Orange
R-13, Chlorotrifluoromethane	Orange	Orange	Orange	Orange
R-21, Dichlorofluoromethane	Orange	Orange	Orange	Orange
R-22, Chlorodifluoromethane	Orange	Orange	Orange	Orange
R-113, Trichlorotrifluoroethane	Orange	Orange	Orange	Orange
R-114, Dichlorotetrafluoroethane	Orange	Orange	Orange	Orange
R-124A, Chlorotetrafluoroethane	Orange	Orange	Orange	Orange
R-500, Dichlorodifluoromethane/ Difluoroethane	Orange	Orange	Orange	Orange
R-502, Monochlorodifluoromethane/ Monochloropentafluoroethane	Orange	Orange	Orange	Orange

*A' or A'' (see figure 2) for medical gas mixtures.
**B' or B'' (see figure 2) for medical gas mixtures.

Table III. Titles and color codes for compressed gas cylinders (continued)

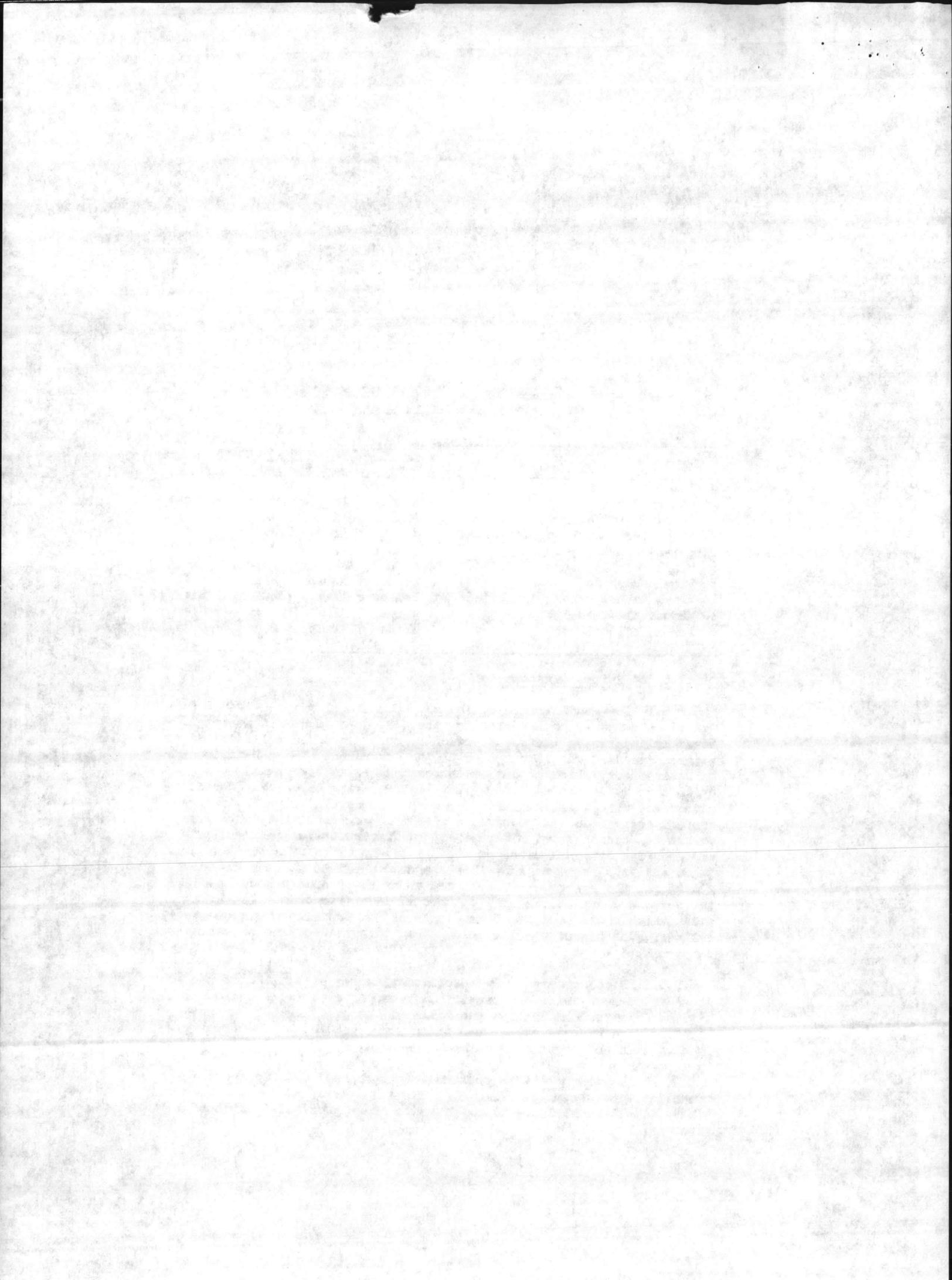
Title	Location on cylinder			
	Top A	Band B	Band C	Body
Sulfur dioxide	Brown	Gray	Brown	Brown
Sulfur hexafluoride	Gray	White	Black	Gray
Tetrafluoroethylene, inhibited	Buff	White	White	Buff
Trimethylamine, anhydrous	Yellow	Blue	Orange	Buff
Vinyl bromide	Buff	Blue	Blue	Buff
Vinyl chloride	Yellow	Orange	Buff	Buff
Vinyl methyl ether, inhibited	Yellow	Black	Buff	Buff
Xenon, oil-free	White	Black	Gray	Gray
Xenon, oil-tolerant	White	Black	Black	Gray

5.2.5 Additional information.

5.2.5.1 Commercial-owned cylinders. Commercial-owned cylinders are those not owned by or procured for the U.S. Government. Commercial-owned cylinders are contractor-owned or supplier-owned cylinders in which compressed gas is supplied to the Government. When Department of Defense activities procure compressed gases in commercial-owned cylinders, it is not mandatory that the cylinders be color coded in accordance with this standard. When such commercial-owned cylinders are not color coded in accordance with this standard, they shall be marked in accordance with Department of Transportation regulations and American National Standard Z48.1. If the using Department of Defense activity requires that this standard apply to commercial-owned cylinders, the bottom and lower portion of the cylinder body opposite the valve end may be used for commercial identification. In this area, which shall not exceed one-sixth of the overall length of the cylinder, the use of a solid color other than the body color will not be permitted.

5.2.5.2 Decalcomanias. Two decalcomanias may be applied on the shoulder of each cylinder diametrically opposite at right angles to titles. They should include the title of the gas, precautions for handling, and use. A background color corresponding to the primary warning color of the contents should be used.

5.2.5.3 Shatterproof designation. Shatterproof cylinders shall be stenciled with the phrase "Non-Shat" longitudinally 90 degrees from the titles. Letters shall be black or white and approximately 1 inch in size.



MIL-STD-101B

3 December 1970

5.2.5.4 Service ownership. On cylinders owned by or procured for the Department of Defense, the bottom and the lower portion of the cylinder body opposite the valve end may be used for Service ownership titles.

5.2.5.5 International standardization agreements. This standard shall be used to implement NATO STAGNAG 2121, CENTO STAGNAG 2121, and SEATO STAGNAG 2121, subject: Medical Gas Cylinders.

Custodians:

Army - MU
Navy - SH
Air Force - 68

Review activities:

Army - AV, ME, MI, MU(FA), WC
Navy - AS, MC, MS, SH, YD
Air Force - 12, 43, 68, 70
DSA - CS, GS

User activities:

Navy - CG
Air Force - 19, 71

Preparing activity:

Army - MU(EA)

Project No. 8120-0130

RR-C-901C

RR-C-901B
August 1, 1967

FEDERAL SPECIFICATION
CYLINDERS, COMPRESSED GAS:
HIGH PRESSURE, STEEL DOT 3AA,
AND ALUMINUM APPLICATIONS,
GENERAL SPECIFICATION FOR

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal Agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers new cylinders in accordance with the Department of Transportation Specification 3AA for 4130X steel fabrication and when specified, for application of approved DOT standards for high pressure aluminum fabrication.

1.2 Classification. Classification of the cylinder shall include this specification letter and number followed by the slash number for the applicable specification sheet and the dash number for the size cylinder as specified (see 6.2). (Ex. RR-C-901/2-5 (see 6.4)).

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

Federal Specifications:

PPP-B-601
PPP-B-621

- Boxes, Wood, Cleated Plywood.
- Boxes, Wood, Nailed and Lock Corner.

Federal Standards:

FED-STD-123
FED-STD-H28

- Marking for Shipment (Civil Agencies).
- Screw Thread Standards for Federal Services.

FSC 8120

THIS DOCUMENT CONTAINS 12 PAGES.

specification
under General Informa
and Commercial Item Description
bimonthly supplements as issued, is for sale on a subscription basis by
the Superintendent of Documents, U.S. Government Printing Office, Washington,
DC 20402.

(Single copies of this specification, other Federal specifications, standards and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from General Services Administration Business Service Centers in Boston; New York; Philadelphia; Washington, DC; Atlanta; Chicago; Kansas City, MO; Fort Worth; Houston; Denver; San Francisco; Los Angeles and Seattle, WA.

(Federal Government activities may obtain copies of Federal specifications, standards and commercial item descriptions and the Index of Federal Specifications, Standards and Commercial Item Descriptions from established distribution points in their agencies.)

Military Specifications:

- | | |
|---------------|---|
| MIL-V-2 | - Valves, Cylinder, Gas (for Compressed or Liquefied Gases)
General Specification for. |
| MIL-T-704 | - Treatment and Painting of Materiel. |
| MIL-C-17376/1 | - Caps and Flanges, Compressed-Gas Cylinder, Caps. |
| MIL-C-17376/3 | - Caps and Flanges, Compressed-Gas Cylinder: Flange, High Pressure. |

Military Standards:

- | | |
|--------------|---|
| MIL-STD-101 | - Color Code For Pipelines and for Compressed-Gas Cylinders. |
| MIL-STD-105 | - Sampling Procedures and Tables for Inspection by Attributes. |
| MIL-STD-129 | - Marking for Shipment and Storage. |
| MIL-STD-147 | - Palletized Unit Loads. |
| MIL-STD-1186 | - Cushioning, Anchoring, Bracing, Blocking, and Waterproofing: with Appropriate Test Methods. |

Drawings:

Bureau of Ships

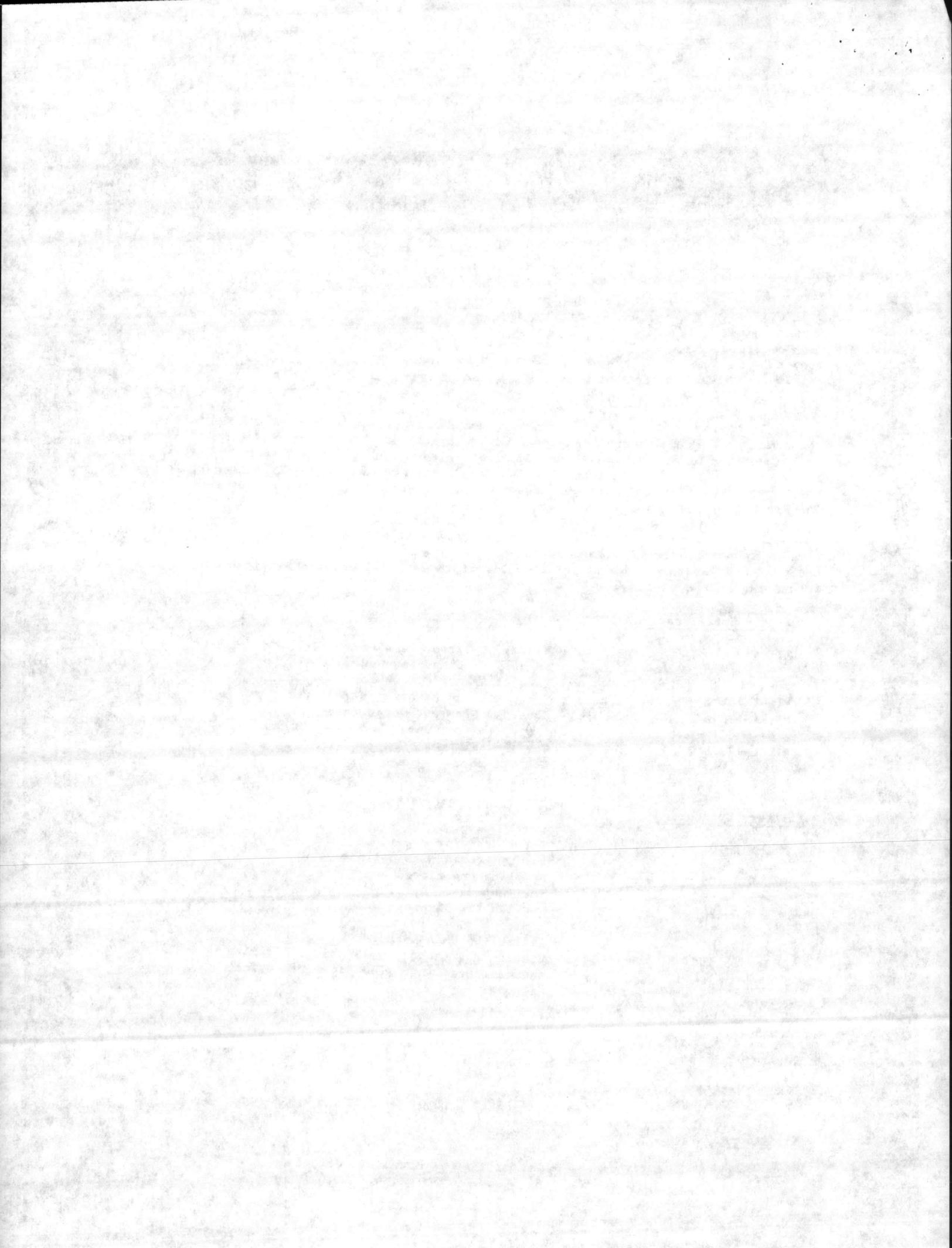
810-1385867

- Decal-comania For Navy Gas Cylinders.

Publications:

TM-38-250

- Preparation of Hazardous Materials for Military Air Shipment.



should be
contracting officer.

Department of Transportation (DOT):

Title 49, Code of Federal Regulations, Transportation 100-199.

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials (ASTM) Standards:

- E23 - Notched Bar Impact Testing of Metallic Materials.
- A370 - Mechanical Testing of Steel Products, Methods and Definitions for.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

National Motor Freight Traffic Association, Inc., Agent:

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 1616 P Street, N.W., Washington, D.C. 20036.)

Uniform Classification Committee, Agent:

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Description. Steel cylinders shall conform to DOT Code of Federal Regulations, Title 49, Specification 3AA, from 4130X steel, shall be as specified in the applicable specification sheet and as specified herein. Aluminum cylinders shall conform to current aluminum cylinder specifications approved by the Department of Transportation, with dimensions as specified by the procuring agency (see 6.2), and as specified herein.

3.2 Construction.

3.2.1 Stability. Cylinders shall be true to form and shall be stable in the upright position.

RE

3.2.2 Nonshatterability. Steel cylinder designs under 4 inches in diameter, with wall stress at the minimum specified test pressure under 60,000 psi, and 3AA, 4130X steel cylinder designs under 4 inches in diameter, with wall stress at the minimum specified test pressure under 60,000 psi shall be accepted as nonshatterable and shall be permanently marked "NONSHAT". 3AA, 4130X steel cylinder designs under 4 inches in diameter, with wall stress at the minimum specified test pressure over 60,000 psi and aluminum cylinders shall be subjected to and pass the gunfire test specified in 4.4.2.3 to become acceptable as nonshatterable (see 6.5).

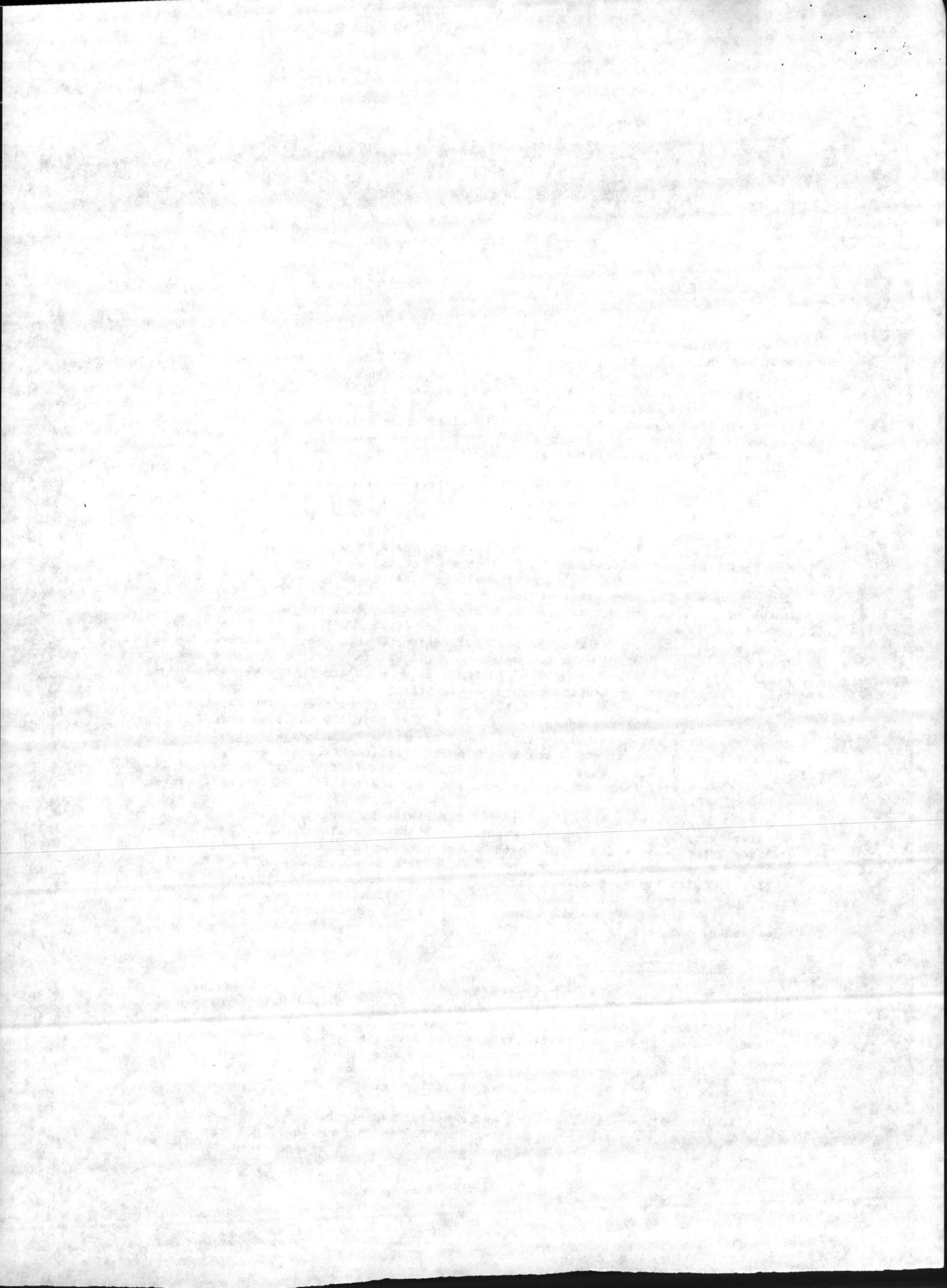
3.2.3 Closure. The steel cylinder neck after forming shall be frilled and tapped with NGT threads in accordance with FED-STD-H28 to receive a valve in accordance with MIL-V-2 for the gas service specified (see 6.2), or when specified, (see 6.2) shall be closed with a plug and gasket capable of maintaining a gas tight seal, and the cylinder shall be prime painted for depot storage. Gas service assignment shall be made at the time of distribution. The aluminum cylinder neck after forming shall be drilled and tapped with straight pipe threads. The boss shall be long enough to receive eleven (11) threads which shall be topped with a sealing flange extending from the boss approximately 1/8 of an inch. The valve inlet sealing flange shall mate with a O-ring in a recess at the top of the internal cylinder neck straight pipe threads to form a gas-tight closure with the cylinder. The valves shall be aluminum and shall be in accordance with MIL-V-2 as applicable, with straight pipe threads (see 6.2). A valve protection cap and a neck flange in accordance with MIL-C-17376/1 and MIL-C-17376/3 shall be provided for cylinders with capacities over 625 cubic inches and for all medical cylinder over 300 cubic inches in capacity. Fire extinguisher applications, industrial cylinders with capacities under 625 cubic inches, and C and D size medical cylinders, shall be supplied without cap and neck flange. When supplied, the neck flange shall be pressed on the neck or peened tight around the neck and onto the shoulder of the cylinder.

3.2.4 Impact resistance. When impact resistance is specified (see 6.2) samples of each heat of steel represented in a lot of cylinders shall have a minimum lateral expansion of 0.015 inches or greater than 50 percent fibrous fracture at a temperature, not higher than, -50° C in accordance with ASTM Test E 23 for Charpy impact testing. Subsize samples from a cylinder wall may be used or a sample from a cylinder wall of greater thickness may be used if the source, processing, and heat treatment of the steel parallels the source, processing, and heat treatment of the cylinders under consideration.

3.3 Cylinder processing.

3.3.1 Internal surfaces. Cylinders at the point of fabrication shall be visually free of loose scale and particulate matter. Any particulate matter resulting from fabrication shall be removed in the cleaning process. Steel cylinders tend to generate particulate matter during shipping and handling. Amounts up to 1.0 gram at receiving inspection are reasonable and should not be cause for rejection, unless special internal cylinder preparation (see 3.3.4) and preservation (see 3.3.5) have been specified (see 6.2).

3.3.2 Oil and hydrocarbons. Oil and residual hydrocarbons from processing shall be removed to a level not greater than 2.5 milligrams (mgs) per square foot of internal surface, but shall not exceed 20 mgs for cylinders over eight



(8) square feet. Oil, grease, or other hydrocarbon residue, or oil or residual hydrocarbons. Chemicals or other materials with the cylinder or its proposed content shall be prohibited.

3.3.3 Cylinder drying. Cylinders, flushed with water for cleaning, hydrostatic testing, or found to contain moisture for any reason, shall be dried with filtered air or nitrogen with a dew-point of less than 30° F. The residual gas shall have a dew-point below 40° F. The cylinder shall be closed with a valve or a plug as applicable (see 3.2.3).

3.3.4 Special internal cylinder preparation. When specified (see 6.2) the internal surface of steel cylinders shall be cleared of all mill scale, rust, and oxidation to the reduced metal level by use of an iron-based abrasive process such as shot-blasting. Aluminum cylinders shall be cleaned free of residue by vapor degreasing or equivalent process.

3.3.5 Special internal cylinder preservation. When specified (see 6.2) after the cylinder is dried, and valved, a vacuum of at least three (3) inches of mercury shall be drawn on the cylinder. Then the cylinder shall be pressurized with nitrogen gas to not less than five (5) psi and the valve shall be closed. The cylinder shall be tagged at the valve "PRESERVED WITH NITROGEN GAS".

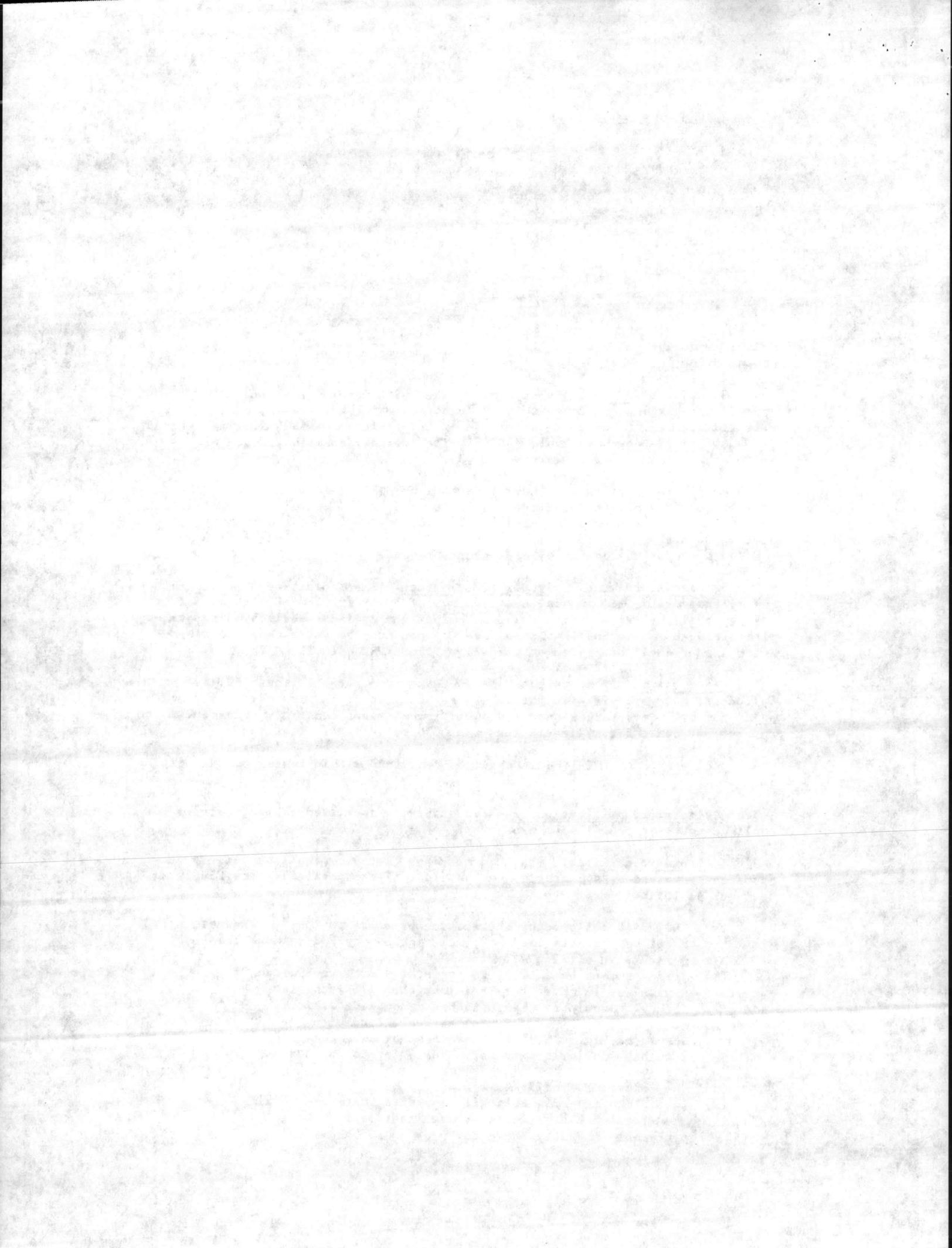
3.4 Tare weight. Tare weights shall be required for all liquefied gas cylinders, and gas. Tare weights shall be accurate to the nearest quarter of a pound for cylinders larger than 800 cubic inches water capacity, and accurate to the nearest ounce for cylinders less than 800 cubic water capacity.

3.5 Delivery date. Cylinders shall be delivered within 1 year of the test date.

3.6 Cylinder identification. Unless otherwise specified herein, marking shall be not less than 1/4 inch high.

3.6.1 Standard markings. Standard markings (see 6.6) shall be plainly and permanently marked by stamping on the shoulder of each cylinder, starting near the neck as follows:

- (a) "DOT 3AA" followed by the service pressure in "psi". Characters shall be not less than 3/8 inch high for cylinders more than 6 inches in outside diameter.
- (b) Serial number (see 6.3), as registered with the Bureau of Explosives in characters not less than 3/8 inch high for cylinders more than 6 inches in outside diameter.
- (c) "US GOVT", Government symbol as registered with the Bureau of Explosives in characters not less than 3/8 inch high for cylinders more than 4 inches in outside diameter.
- (d) The inspector's official mark.
- (e) Date of testing diametrically opposite the above marking.
- (f) Manufacturer's or retester's mark near date of test, preferably directly above it.



- (g) Tare weight markings for type gas shall be in a position other than in sequence with the serial number or test date and as specified in 3.4. Tare weight shall include cylinder and valve, but, without cylinder valve protection cap.
- (h) Cylinders shall be marked for impact resistance with (-50° C) as applicable.
- (i) Cylinders made by spinning shall be marked "SPUN" as applicable.
- (j) Cylinders shall be marked "NONSHAT".

3.6.2 Special markings. The following markings shall be applied as specified:

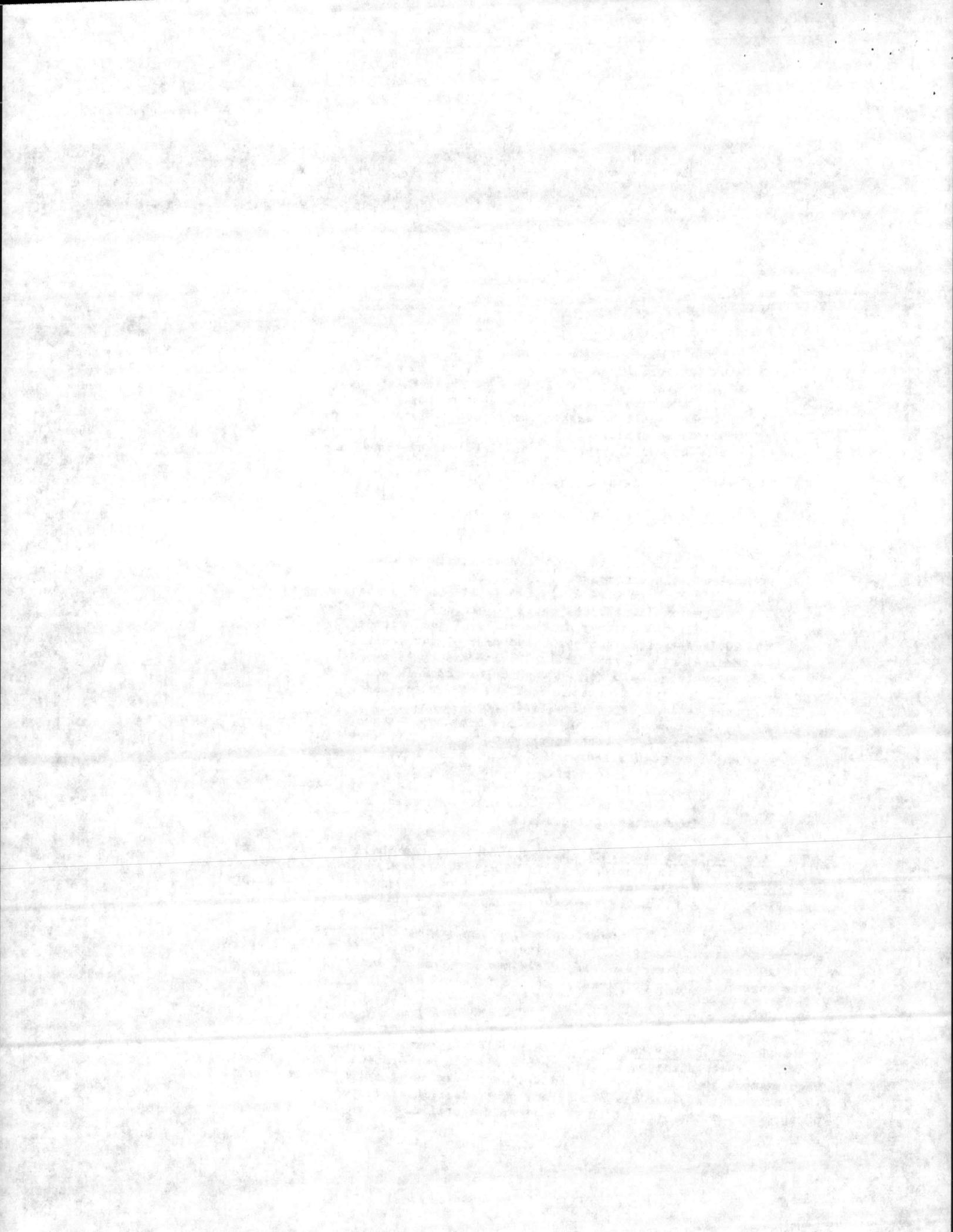
- (a) Name of the gas use specified stenciled on the cylinder in accordance with MIL-STD-101.
- (b) When specified (see 6.2), two decal-comanias conforming to Drawing 810-1385867 shall be affixed diametrically opposite one another on the sides of the cylinder, 90 degrees from the stenciled name of the gas.
- (c) Medical cylinders. Medical cylinders shall be permanently marked, tagged, and color-coded in accordance with the specification sheet for medical cylinder applications or as specified (see 6.2 and 6.6).
- (d) Cylinder specified for aviators breathing oxygen, nitrogen and compressed air used in aircraft servicing shall be stencilled with the equivalent service pressure in kilopascal (see 6.6).
- (e) When specified (see 6.2) cylinder tare weights and service pressures shall be stencilled with equivalent metric markings in kilograms and kilopascals.

3.7 Treatment and painting. Each cylinder and cap shall be treated and painted externally in accordance with MIL-T-704, type C, color conforming to the gas color-code requirement of MIL-STD-101. When a cylinder in prime paint is specified, type A finishing shall be carried to the prime level.

3.8 Workmanship. Cylinders, valves, plugs, flanges, and caps shall be cleaned and free from grit, fins, pits, and loose scale. Edges shall be rounded and chamfered. Cylinders shall be cleaned and free of dents, scratches, and any other surface defects detrimental to the intended use.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved



by the Government. The Government may require any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.1 Component and material inspection. The contractor is responsible for insuring that components and materials used are manufactured, examined, and tested in accordance with referenced specifications and standards.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

- (a) Quality conformance inspection (see 4.3).
- (b) Inspection of preparation for delivery (see 4.5).

4.3 Quality conformance inspection.

4.3.1 Lot. A lot shall consist of not more than 200 cylinders offered for delivery at the same time.

4.3.2 Sampling.

4.3.2.1 For examination. Sampling for examination shall be in accordance with MIL-STD-105, inspection level I.

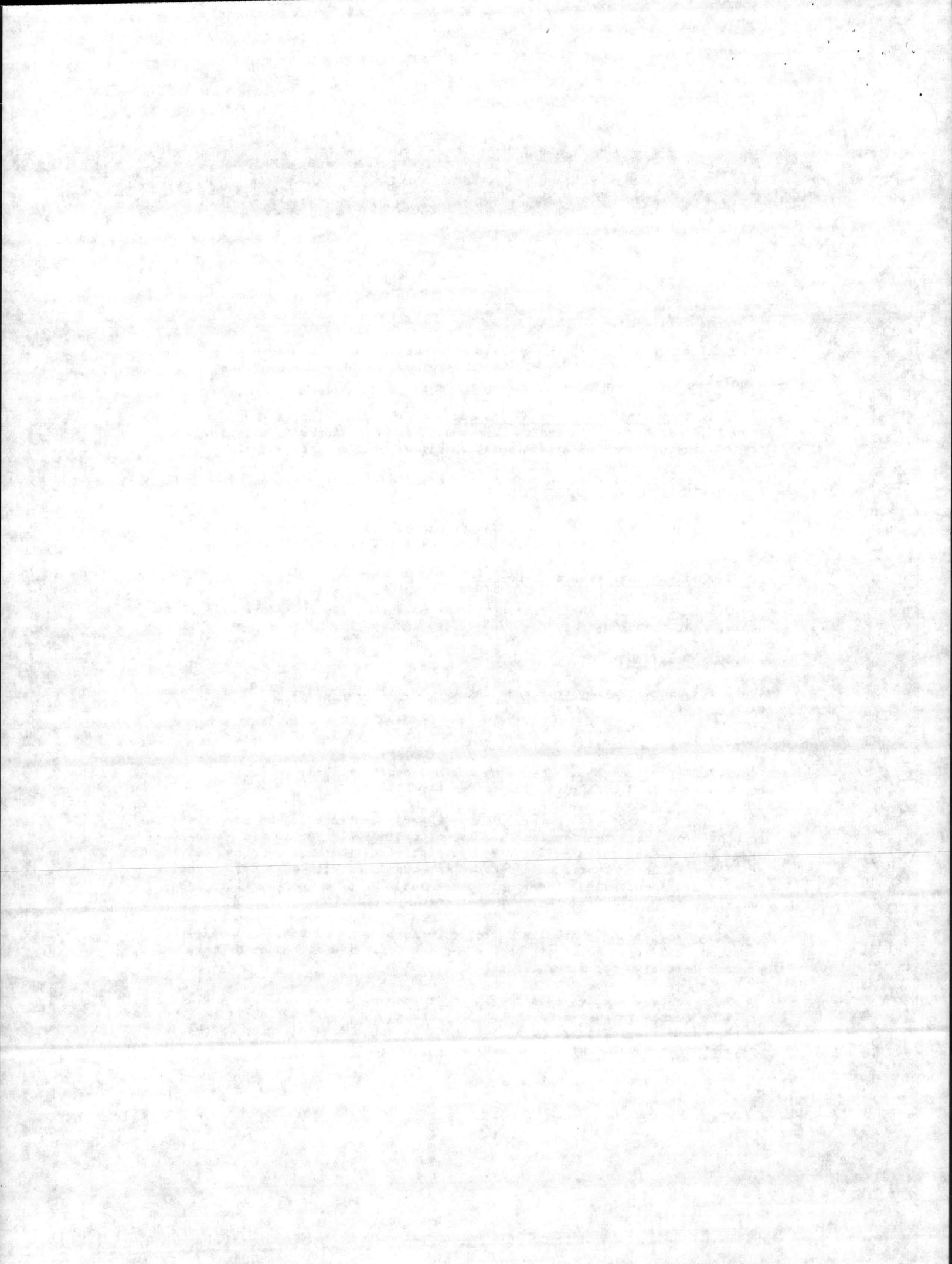
4.3.2.2 For Tests.

4.3.2.2.1 Oil content. Sampling for hydrocarbons shall be in accordance with MIL-STD-105, Inspection Level S4.

4.3.2.2.2 Impact resistance. Charpy impact samples shall be prepared from each heat of steel represented in a lot of cylinders. The sample plate shall be taken from a fabricated cylinder representative of the heat of steel and the lot of cylinders to be tested and prepared in accordance with ASTM E23. Subsize samples are acceptable. The sample plate shall be of a length, width, and thickness to provide six charpy impact test specimens.

4.3.3 Examination. Samples selected in accordance with 4.3.2.1 shall be examined in 4.4.1. AQL shall be 1.0 percent defective for major defects and 2.5 percent defective for minor defects.

4.3.4 Tests. Samples selected in accordance with 4.3.2.2.1 and 4.3.2.2.2 shall be tested as specified in 4.4.2.1 through 4.4.2.3. AQL shall be 1.0 percent defective. Failure of a test shall be cause for rejection of the cylinders representative of the sample in a cylinder lot.



4.4 Inspection procedures

4.4.1 Examination. The sample cylinders shall be examined as specified in 4.3.3 for the following characteristic:

Major

101. Dimensions not as specified.
102. Construction not as specified.
103. Cleaning not as specified.

Minor

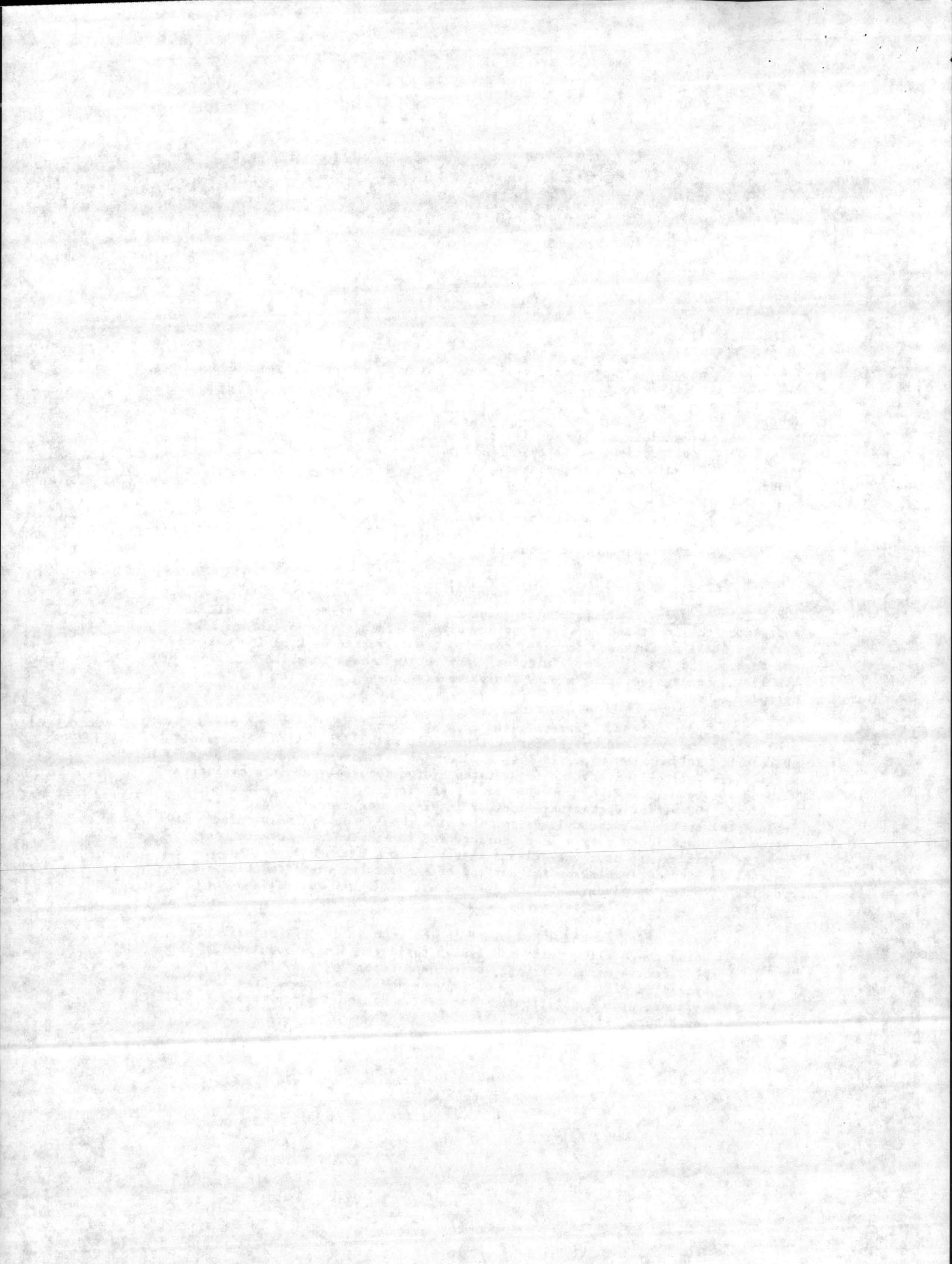
201. Markings not as specified.
202. Delivery date not within 1 year of the test date.
203. Treatment and painting not as specified.
204. Workmanship not as specified.

4.4.2 Tests.

4.4.2.1 Leakage. Cylinders with valve threaded into the cylinder shall be charged to the indicated service pressure with oil-free air or nitrogen. The cylinder shall be immersed in water covering the valve and neck of the cylinder and observed for bubbles for 2 minutes. Any bubbles shall constitute failure of the test. Leakage occurring around the valve stem may be corrected and the cylinder retested.

4.4.2.2 Hydrocarbons. Place a clean cork in the cylinder neck and clean the area around the cork and cylinder neck thoroughly with redistilled chlorinated hydrocarbon solvent and wipe dry with a clean rag. Remove the cork and pour 300 milliliters (ml) of redistilled chlorinated hydrocarbon solvent into cylinders with up to 3 square feet of internal area. For larger cylinders, add an additional 100 ml for each square foot of internal area over 3 square feet. Replace the cork. Lay the cylinder on its side. Roll the cylinder through 360 degrees back and forth over a level surface for 10 minutes. Remove the cork from the cylinder and pour the solvent extract into a clean beaker. Any undissolved liquid floating on the surface of the solvent would indicate the presence of water or glycerine. The solvent extract shall be analyzed for hydrocarbons by one of the following methods:

- (a) Evaporation method - Evaporate the extract to dryness at slightly below the boiling point and finish the drying in an oven at $105^{\circ} \text{C} \pm 1^{\circ} \text{C}$ for 15 minutes. Cool, weigh, and report as milligrams of extracted oil. All traces of solvent shall be removed from the cylinder upon completion of this test. Nonconformance to 3.3.2 shall constitute failure of this test.

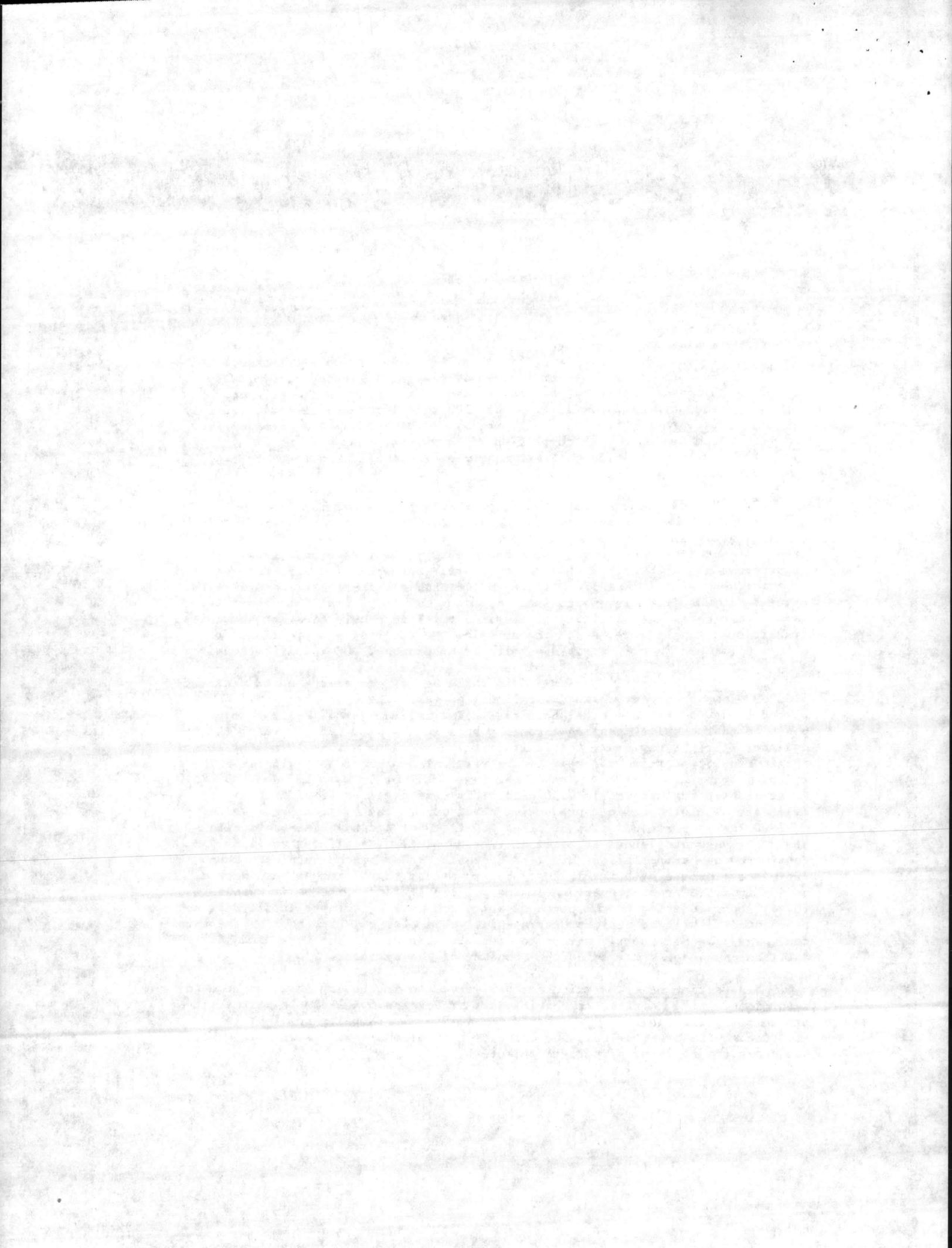


- (b) Infrared spectroscopy shall be analyzed against a reference standard of the base solvent with a known hydrocarbon level of 2.5 milligrams per 100 milliliters. A response in a functional range displaying a greater contamination of hydrocarbons in the solvent-extract than found in the reference standard of 2.5 milligrams per 100 milliliters shall constitute failure of this test. All traces of solvent shall be removed from the cylinder upon completion of this test.
- (c) In case of dispute, final determination shall be made by the evaporation method.

4.4.2.3 Charpy impact test. The samples selected in accordance with 4.3.2.2.2 shall be tested in accordance with ASTM E23. Impact energy values shall be great enough to produce cleavage of the test samples. Cleavage shall result in not less than 50 percent fibrous fracture with a transitional temperature not higher than -50° C. A lateral expansion of 0.015 inch measured in accordance with ASTM A 370 will be an acceptable criterion instead of a 50 percent fibrous fracture evaluation. Aluminum cylinders shall be exempt from impact testing as the ductility of aluminum metal is nearly constant above its transitional temperature, which is far below the range of practical use for alloys permitted in DOT approved permits or in proposed DOT specifications.

4.4.2.4 Gunfire test. Two cylinders shall be charged to the rated pressure plus or minus 5 percent, using a nonliquified gas. The cylinders shall be placed behind a suitable steel barricade. The cylinder shall be in such a position that a bullet passing through a hole in the barricade, strikes the cylinder at right angles to the longitudinal centerline within 1 inch of the longitudinal centerline and near to the vertical center of the cylinder. The cylinder temperature at the time of the test shall be between 50° and 100° F. An armor piercing projectile 0.50 caliber in size shall be fired at the cylinder. The 0.50 caliber projectile shall strike the cylinder at a velocity of 2800 feet per second, plus or minus 100 feet per second. The projectile shall strike the cylinder straight on (not tumbled). A cylinder shall be considered as having failed this test if the cylinder breaks into more than two pieces; provided, however, that pieces smaller than 2 inches in diameter coming from the areas (centering on the perforation and 4 inches in diameter) on the cylinder adjacent to the point of entry and exit of the projectile will not be counted. Cylinder designs, representative samples of which have passed this test, shall be permanently marked to indicate this fact. The term "NONSHAT" shall be permanently marked on the shoulder of the cylinder.

4.5 Inspection of preparation for delivery. An inspection shall be made to determine compliance with the requirements of Section 5. A sample unit shall be one shipping container fully prepared for delivery. Sampling shall be in accordance with MIL-STD-105. The inspection level shall be S-2 with an AQL of 4.0 expressed in terms of percent defective.



5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging. No preservation or packaging of any kind shall be applied to any part of the cylinders.

5.2 Packing. Packing shall be level A or C, as specified, (see 6.2).

5.2.1 Level A.

5.2.1.1 Cylinders over 30 inches in length (not including valve). Cylinders segregated for size and type shall be packed in pallet loads in accordance with MIL-STD-147, load type IX. Strapping shall be zinc coated.

5.2.1.2 Cylinders under 30 inches in length (not including valve). As specified in the contract or order (see 6.2), cylinders shall be palletized as specified in 5.2.1.1, or shall be packed in close-fitting boxes conforming to PPP-B-601, overseas type, style I or J, or PPP-B-621, class 2, style optional, up to the weight limitations of the container. Contents shall be blocked and cushioned in accordance with MIL-STD-1186.

5.2.2 Commercial. The cylinders shall be packed in accordance with normal commercial practice. The complete pack shall be designed to protect the cylinders against damage during shipment, handling, and storage, insure delivery at destination, provide for redistribution by the initial receiving activity and be acceptable by common carrier under the National Motor Freight Classification, Uniform Freight Classification, Title 49, Code of Federal Regulations, and Technical Manual 38-250.

5.3 Marking.

5.3.1 Military agencies. Marking shall be in accordance with MIL-STD-129.

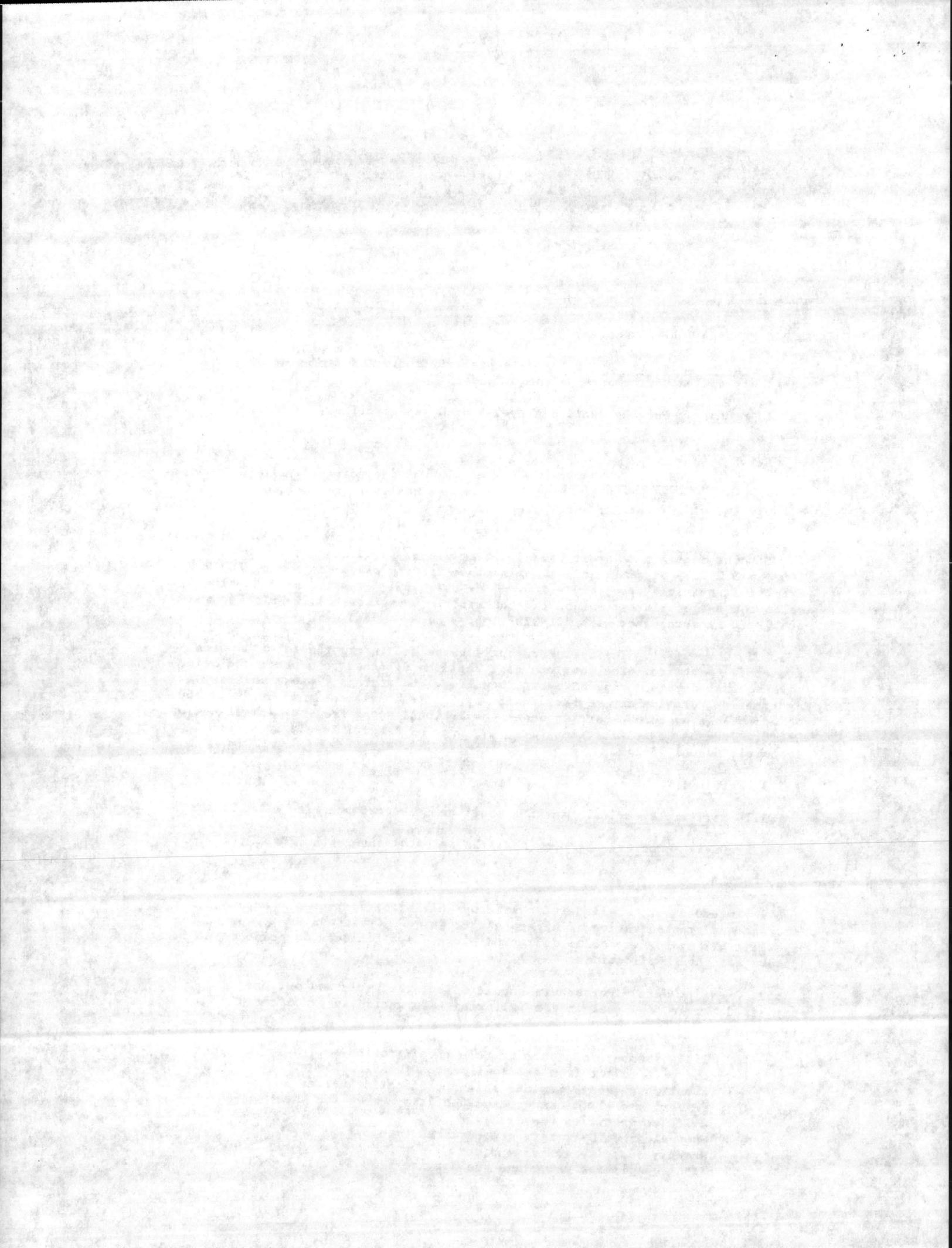
5.3.2 Civil agencies. Marking shall be in accordance with FED-STD-123.

6. NOTES

6.1 Intended use. Cylinders covered by this specification are intended for storage and transportation of high-pressure gases. Cylinders are prepared for specific gas use or are to be delivered plugged and finished in prime paint for future assigned applications.

6.2 Ordering data. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) The part number from the applicable specification sheet which shall include this specification letter and number, the slash number, and the dash number for the cylinder specified (see 1.2).
- (c) When aluminum cylinders are required (see 3.1); specify capacity and dimensions.
- (d) Specify cylinder valve and gas service (see 3.2.3).

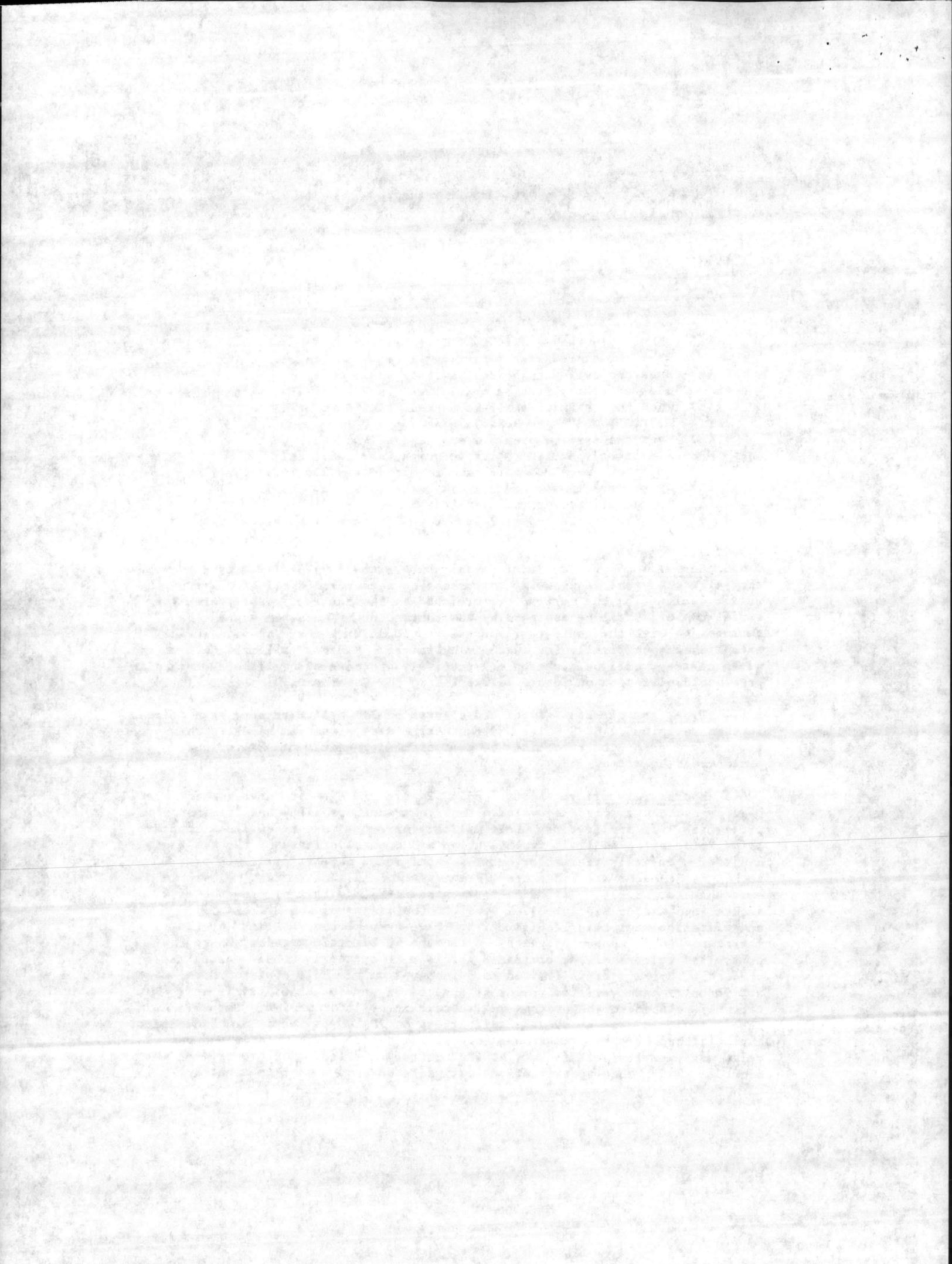


- V
S
M
F
- (e) When a plug and gasket is required (see 3.2.3).
 - (f) When impact resistance testing is required (see 3.2.4).
 - (g) When the cylinder internal surface shall be specially cleaned to the reduced metal level (see 3.3.4).
 - (h) When the cylinder shall be marked "PRESERVED WITH NITROGEN GAS" (see 3.3.5).
 - (i) When the service pressure and tare weight shall be additionally marked in metric units (see 3.6.1 (e)).
 - (j) When Navy decal-comanias are required (see 3.6.2 (b)).
 - (k) Extra marking for medical cylinders (see 3.6.2 (c)).
 - (l) Degree of packing required (see 5.2).
 - (m) When cylinders under 30 inches in length will be packed in boxes (see 5.2.1.2).

6.3 Serial numbers. Cylinder serial numbers shall be prefixed by a two- or three-letter symbol designating the procuring agency and shall have a two-letter suffix designating the contractor furnished by the contracting officer. The serial numbers shall be assigned by the contractor. These numbers may be consecutive with the contractor's regular production numbers or of a series established specifically for customer cylinders. However, all cylinders on a given contract will be numbered consecutively and controls will be exercised to preclude duplication on future deliveries to the Government.

6.4 Types and classes. Types and classes of 3AA cylinders have been deleted in this revision of RR-C-901. Under ordering data, items in handling this product are presented as options to meet special requirements of various procurement agencies.

6.5 Nonshatterability. Historically, Government agencies have gunfire tested high pressure cylinders to evaluate their non-shatterability and fragmentation properties. In applications where military personnel are in confined quarters, prime interest is to limit fragmentation and control release of the gas in a cylinder when it is pierced or burst. When ground support cylinders over 4 inches in diameter are considered, fragmentation in gunfire test is held to not more than two pieces. Extensive testing has verified that cylinders over 4 inches in diameter made of 4130X steel to the limits of the DOT 3AA specification meet this requirement and have been marked "NONSHAT" by the fabricator for a number of years. Cylinders in aircraft service, where the controlled release of the contained gas is more critical, tearing about the projectile apertures is limited to 3 inches from the hole center. Government and industry have verified that this quality of nonshatterability is most directly related to the average wall stress in cylinder design. The DOT 3AA specification allows an average wall stress of 70,000 psi maximum. Independent investigators have arrived at wall stress limits from 50,000 to 60,000 psi as valid maximums for satisfactory NONSHAT characteristics. For procurement in accordance with this specification, cylinders under 4 inches in diameter,



RR-C-901C

fabricated in accordance with DOT 3AA 4000 psi maximum wall stress will be accepted and shall be permanently marked "NONSHAT". Cylinders under 4 inches in diameter with maximum wall stress greater than 60,000 psi will pass actual gunfire tests before qualifying to be permanently marked "NONSHAT".

6.6 International standardization. Certain provisions (see 3.6.1 and 3.6.2) of this specification are the subject of International Standardization Agreement STANAG 3056, STANAG 2121, QSTAG 236 and QSTAG 357. When amendment, revision, or cancellation of this specification is proposed, the departmental custodians will inform their respective Departmental Standardization Offices that appropriate action may be taken respecting the international agreement concerned.

6.7 Supersession data. This specification supersedes RR-C-901B dated August 1, 1967. RR-C-901C coordinates the conversion of the following Military Standards to applicable specification sheets and subsequent cancellation:

MS39224 - RR-C-901/1
MS39225 - RR-C-901/2
MS39226 - RR-C-901/3

The classification shall be established as specified herein (see 1.2). The dash numbers for the cylinder part numbers will remain unchanged.

6.8 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification (see 3.1).

MILITARY INTERESTS:

Custodians:

Army - ME
Navy - SH
Air Force - 68

Review activities:

Army - MI EA
Navy - AS, OS, MS

User activities:

Navy - YD, MC
DLA - GS, PS

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA-FSS
HEW-NIH
DOT-OHM
JUS-FPI
VA-DMS

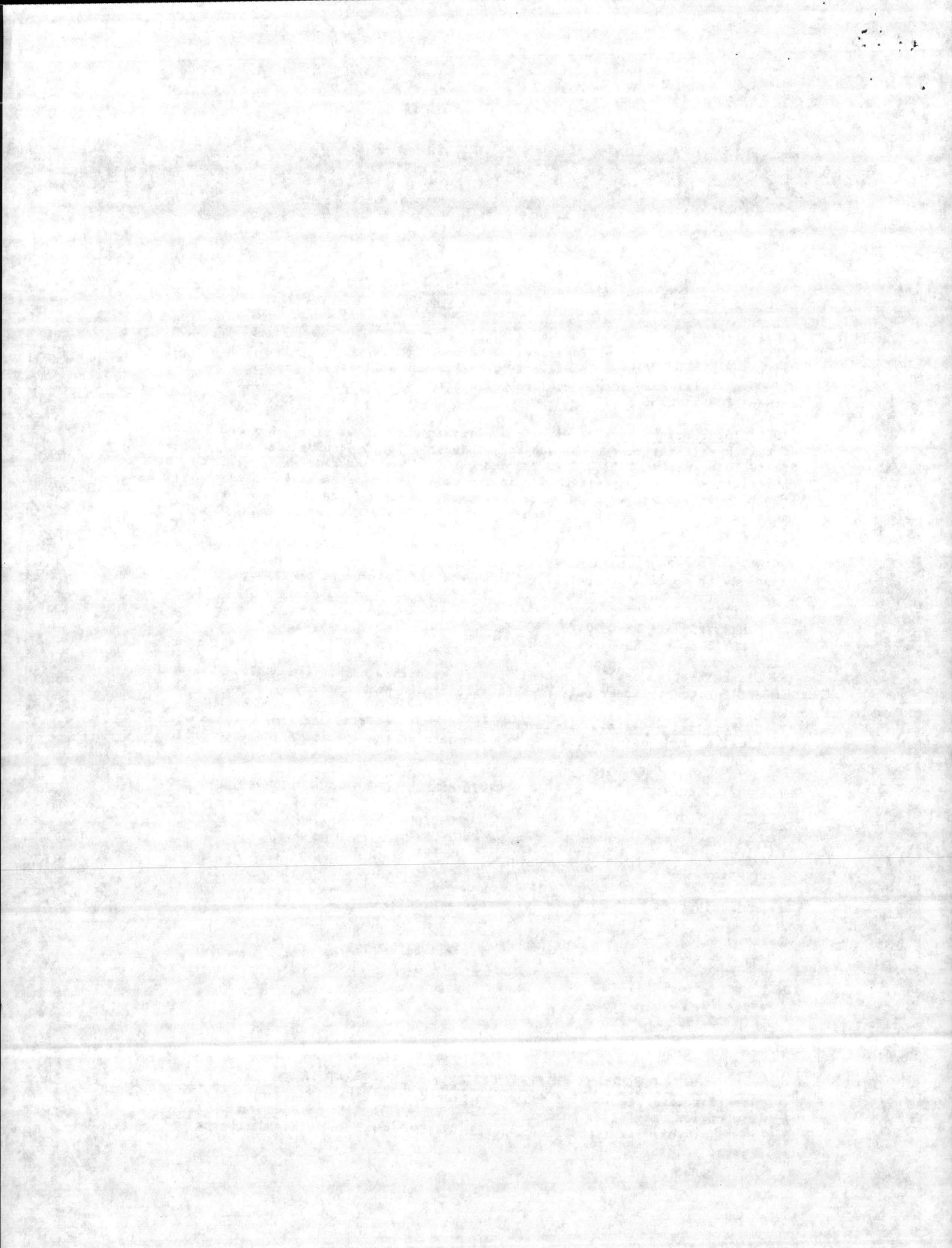
Preparing activity:

Army - ME

Project 8120-0360

U.S. GOVERNMENT PRINTING OFFICE : 1981 - 341-705/1220

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See Section 2 of this specification to obtain extra copies and other documents referenced herein.



RR-C-901/1

December 1, 1969

FEDERAL SPECIFICATION SHEET

CYLINDER, COMPRESSED GAS:

DOT SPECIFICATION 3AA

AND ALUMINUM APPLICATIONS,

FOR INDUSTRIAL SERVICES

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal Agencies.

The complete requirements for procuring compressed gas cylinders, Specification DOT 3AA described herein, shall consist of this document and the issue in effect of Specification RR-C-901.

TABLE I

Part Number	Gas Service	Valve MIL-V-2	Service Pressure PSI	Capacity		Dimensions Inches		Tare Max lbs	Water Capacity	U S E
				Cu	Ft	Dia	H			
C901/1-1	AIR	V5-1341	3500	340		9-1/4	51	205	2640	1
C901/1-2	AIR	V5-1341	2265	234		9	51	125	2640	1
C901/1-3	Ar	V11-580	2265	243		9	51	125	2640	1
C901/1-4	He	V11-580	2265	217		9	51	125	2640	1
C901/1-5	H ₂	V29-351	2265	213		9	51	125	2640	1
C901/1-6	N ₂	V11-580	2265	230		9	51	125	2640	1
C901/1-7	N ₂	V33-000	2500	275		9	51	150	2640	2
C901/1-8	N ₂	V11-580	3500	340		9-1/4	51	205	2640	1
C901/1-9	N ₂	V33-000	3500	340		9-1/4	51	205	2640	2
C901/1-10	N ₂	V26-590	2265	242,235		9	51	125	2640	1
C901/1-11	O ₂	V39-540	2265	27		5-3/8	18-1/2	20	295	3

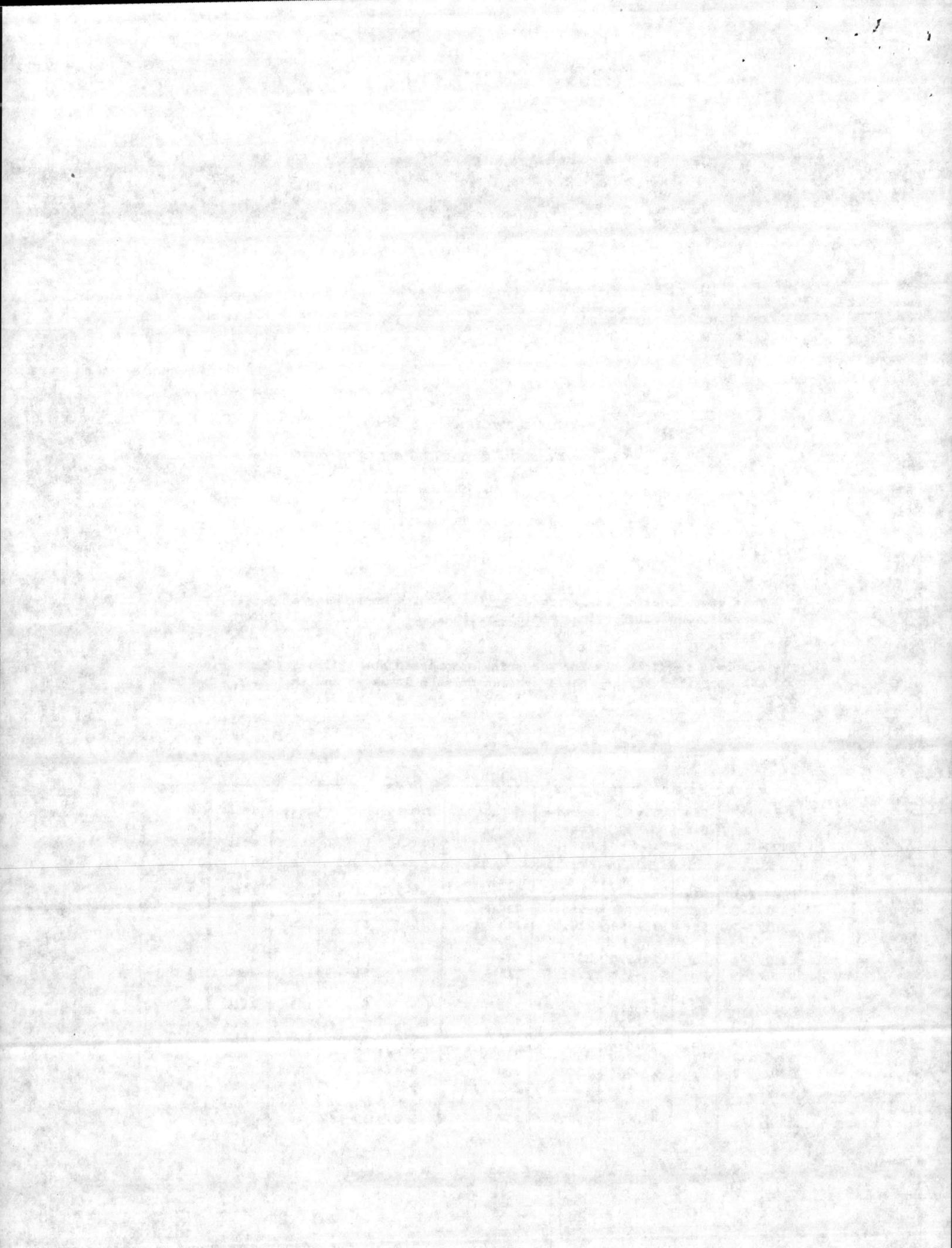
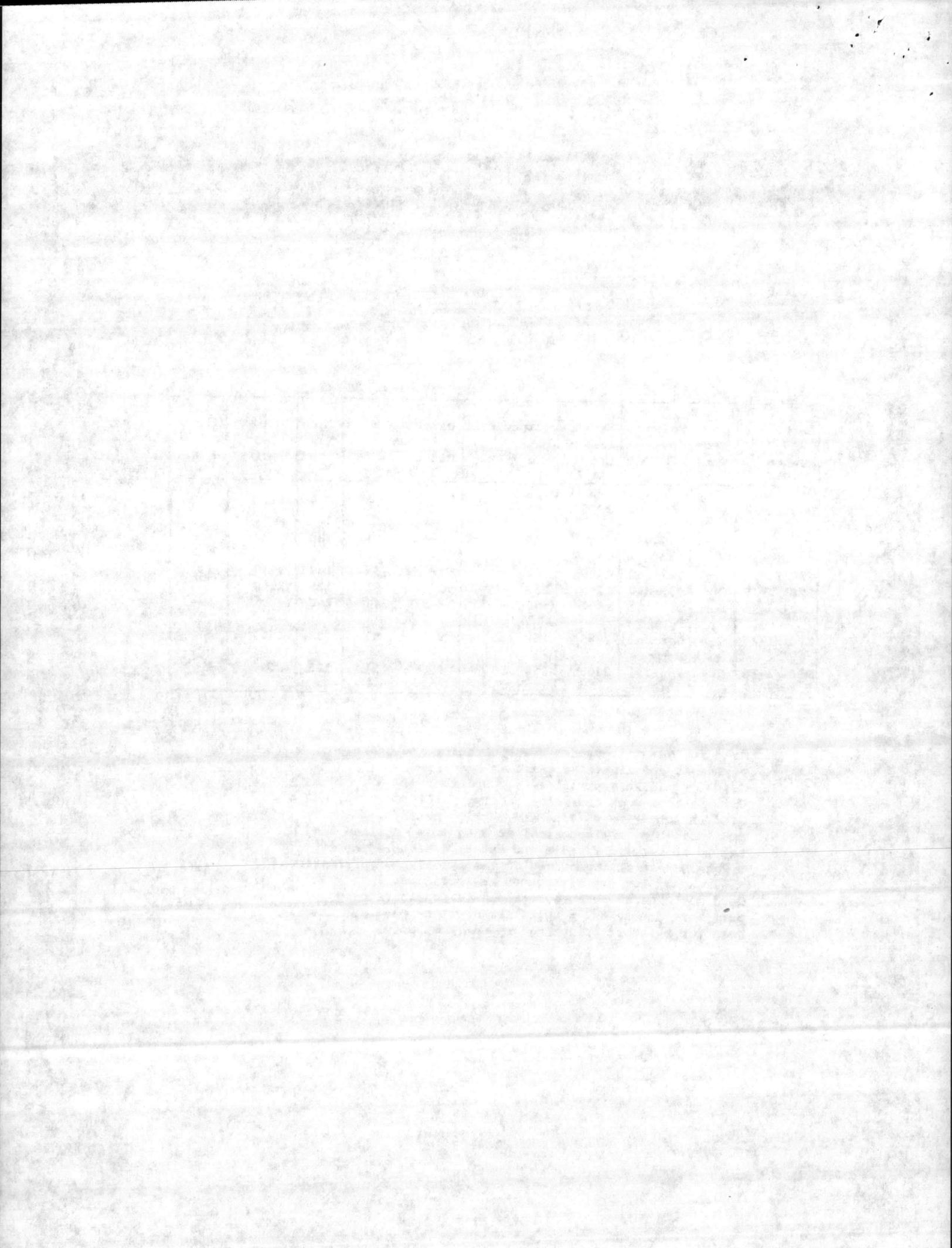


TABLE I (Cont'd)

Part Number	Gas Service	Valve MIL-V-2	Service Pressure PSI	Capacity		Dimensions Inches		Tare Max lbs	Water Capacity	U S E
				Cu	Ft	Dia	H			
C901/1-12	O ₂	V39-540	2265	48		7	19-1/2	42	515	4
C901/1-13	O ₂	V39-540	2265	250		9	51	125	2640	7
C901/1-14	O ₂	V39-540	2400	300		9-1/4	54	142	3040	1
C901/1-15	O ₂	V39-540	2265	250		9	51	125	2640	1
C901/1-16	Gen	Trailer Tube	2400	1500		9-5/8	247	700	14,850	5
C901/1-17	Gen	General Purpose	2265	250		9	51	125	2640	6
C901/1-18	SF ₆	V46-591	2265	250		9	51	125	2640	1

1. Used for general purpose transportation and storage of permanent and liquified gases as specified.
2. Used for military artillery accumulator.
3. Used in back-pack emergency cutting outfits.
4. Used in submarine welding and cutting outfits.
5. Trailer tubes, hemispherical at both ends, drilled and tapped to receive a valve and safety devices approved by the Bureau of Explosives of the Association of American Railroads: For use with gases as specified.
6. Used for general purpose, transportation and storage of permanent gases, but plugged for depot storage and issue.
7. Used for aviators breathing oxygen (ABO) only.

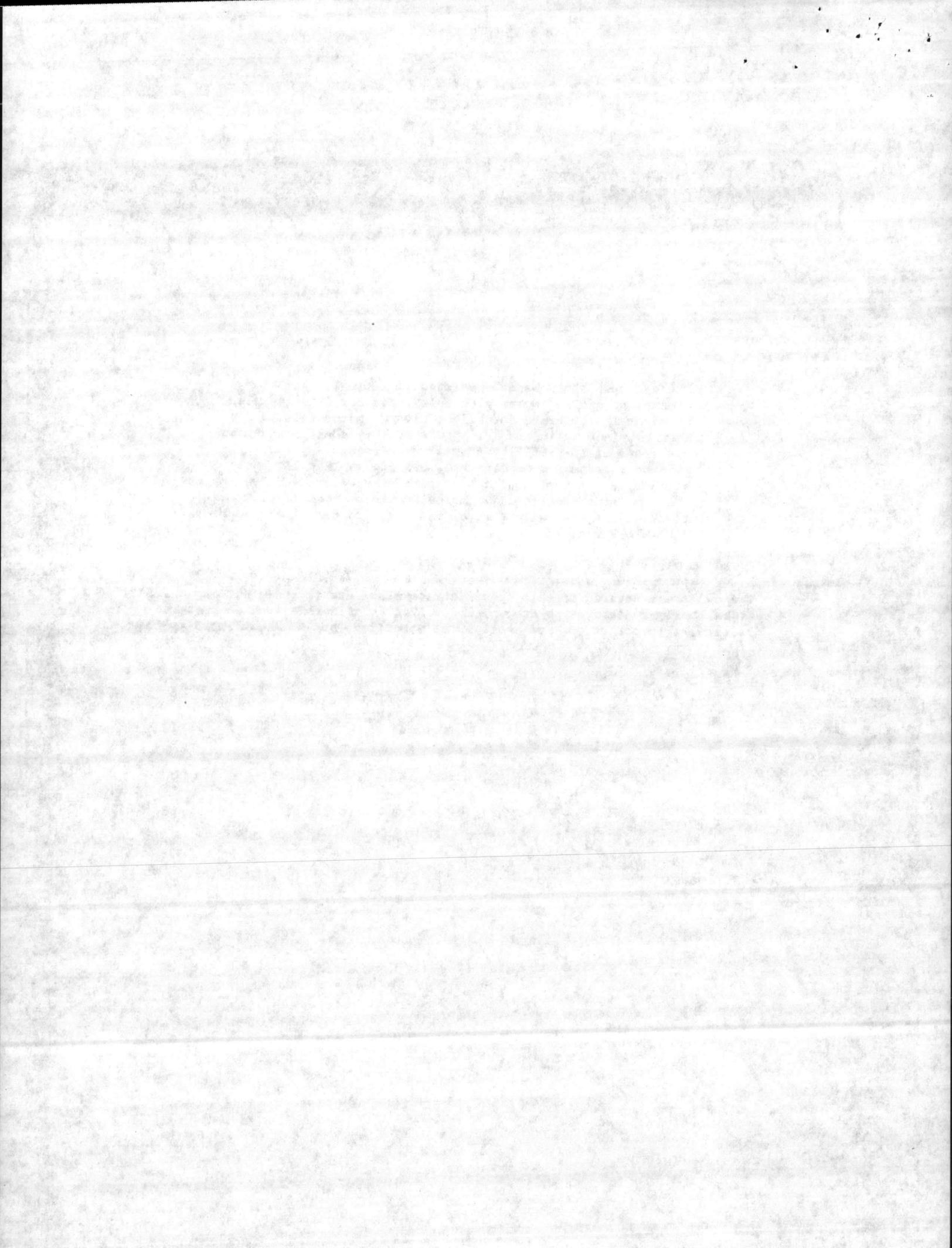


DESIGN REQUIREMENTS

1. The cylinder shall be as specified in table I. All dimensions are in inches with tolerances for diameter plus or minus 1/4 inch and for height plus or minus 1 inch.
2. When aluminum cylinders are specified they shall conform to the issue of RR-C-901 in effect.
3. Aviator's Breathing Oxygen (ABO) cylinders, Dash 13, shall be cleaned and tested with dry and odor-free air. Valve outlets shall be kept free from contamination throughout testing and shall be supplied with a metal valve outlet cap in accordance with MIL-V-2.

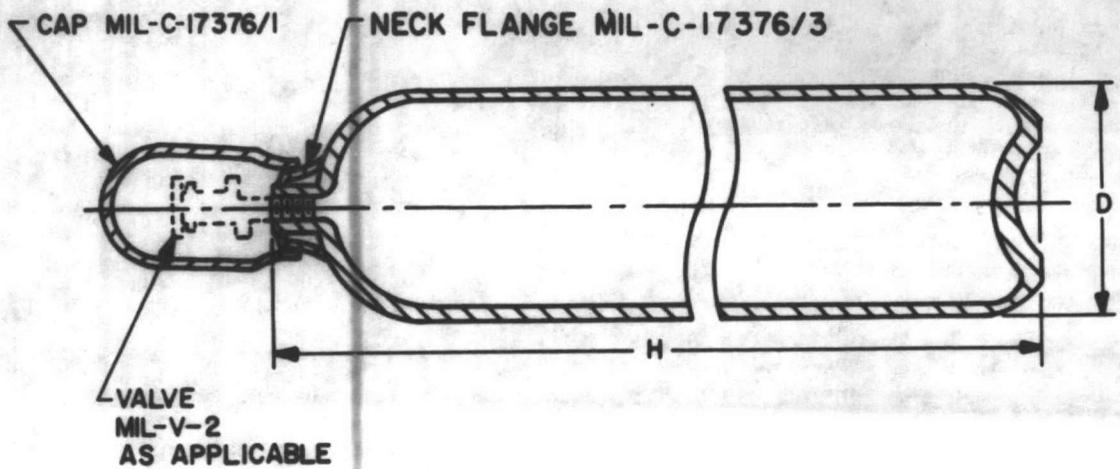
INTENDED USE:

The cylinders covered in this specification sheet are intended for oxygen, air, argon, helium, nitrogen, hydrogen, and sulfur hexafluoride in high-pressure service, transportation, and storage, as specified, but not restricted to them.



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RR-C

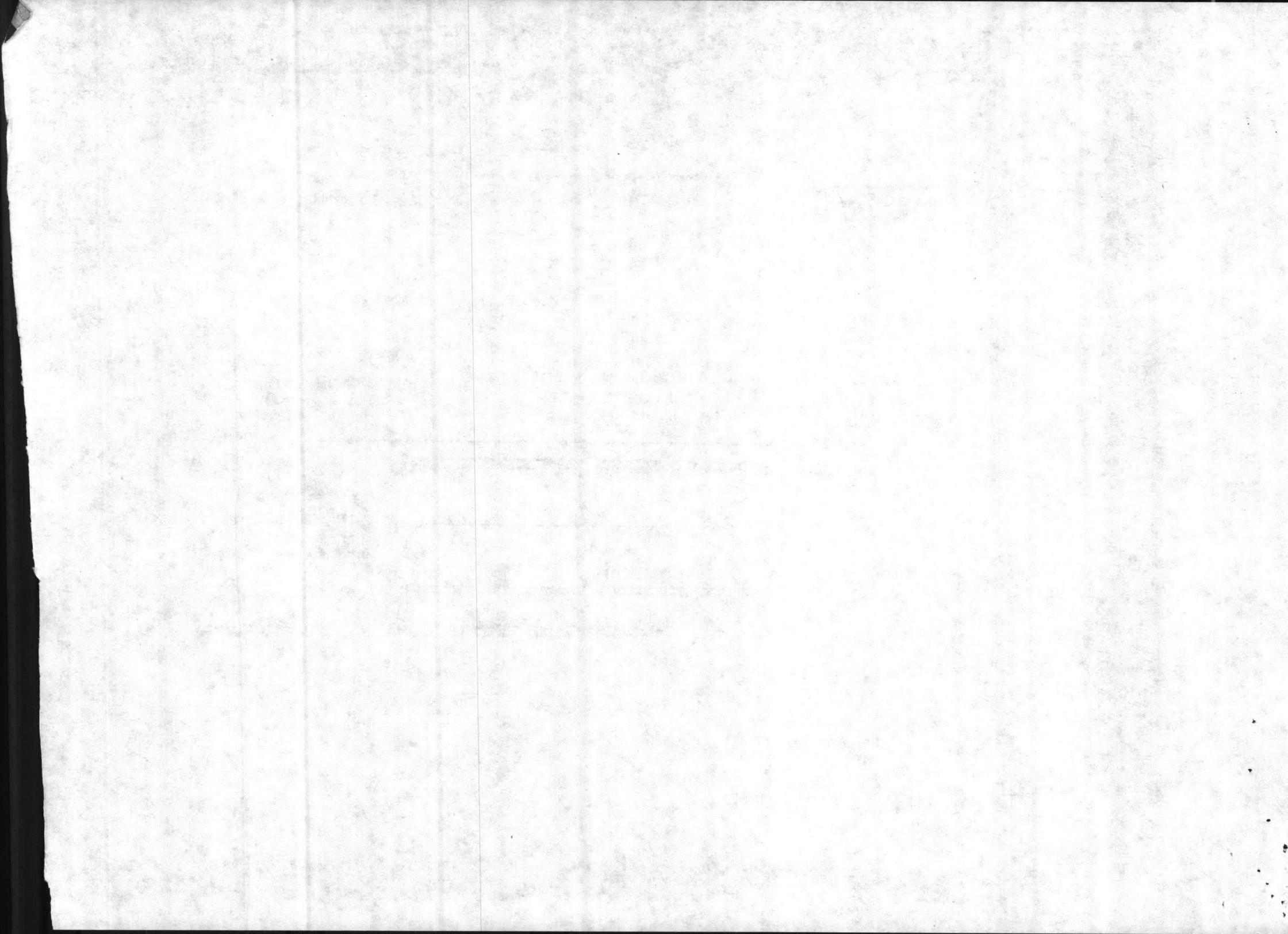


F-11

4

FIGURE I. Cylinder configuration.

X-3177A



A4102240

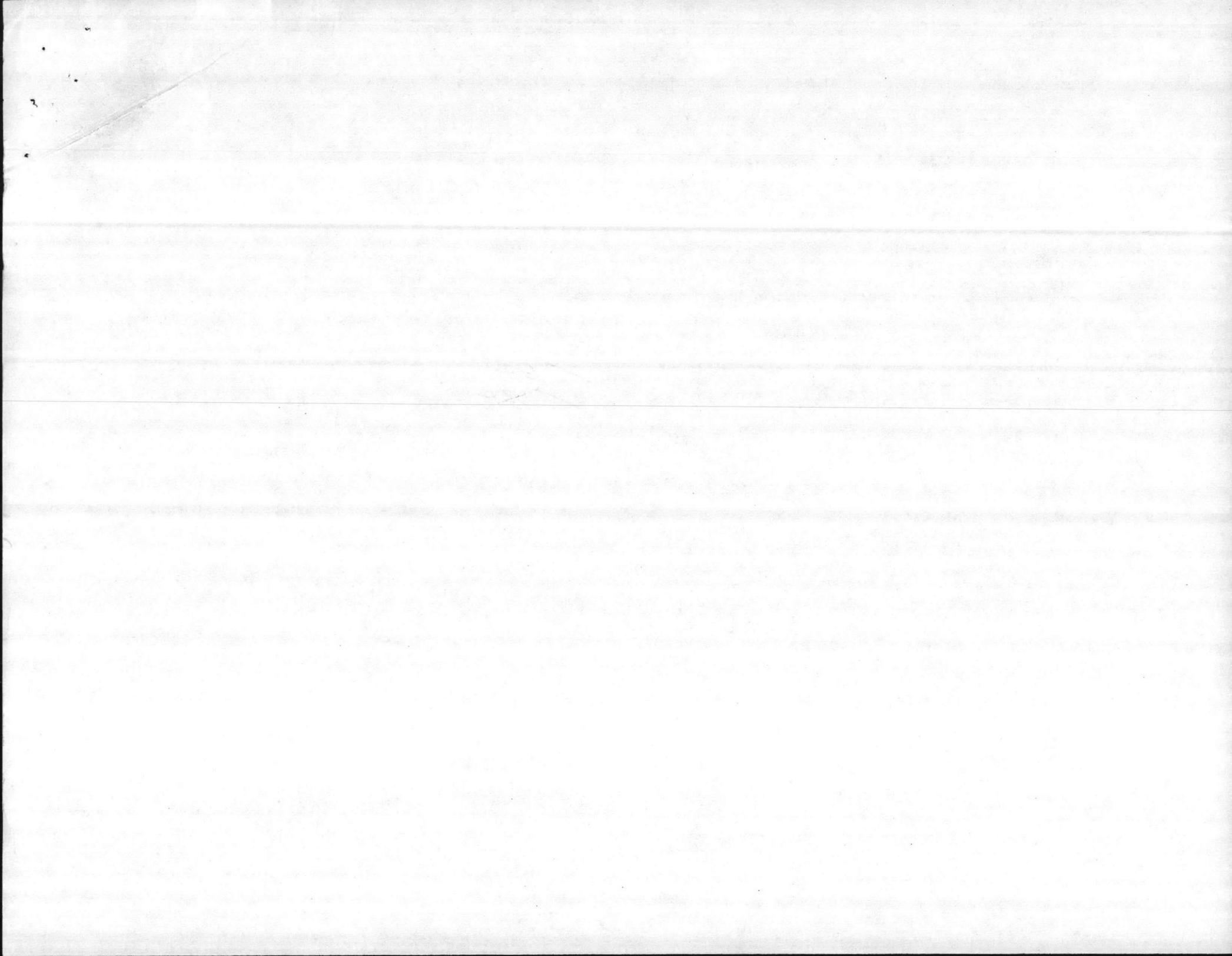
TECHNICAL STOCK NUMBER

01-11-02

STOCK NUMBER	8120-01-C00-8901
DEMIL CODE	A
PMIC	
ADPE CODE	
UNIT OF ISSUE	EA
UNIT PRICE	40.70
SECURITY CODE	U
MEC	55 G2
SOURCE OF SUPPLY CODE	000 SKH
SAC	1
REF NBR LOG	CYLINDER UNION CARBIDE 36346
NOMENCLATURE	CYLINDER, COMPRESSED GAS, OXYGEN, STYLE R, 19" H, 20 CU FT, 6830-00-564-9035.
HAZERDOUS MATERIAL CODE	

PF11 FOR HELP

PF12 TO EXIT



MORE

PAGE

1 OF PROGRAM: KHSCYL

FROM: A0MD&D02

12/10/01 08:14:23.5

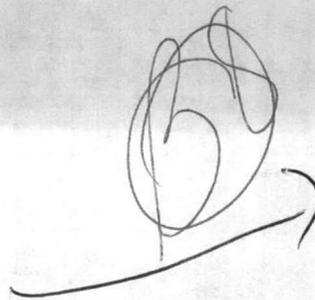
#NSN

OH QTY

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12/10/01



B9BC-19
per Ollie
Leavin 50/14

