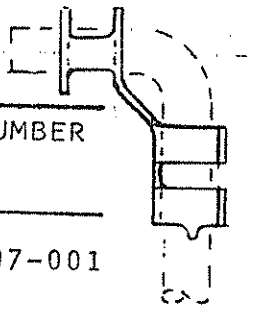
CLIP, PUSH-ON, TINNERMAN STYLE

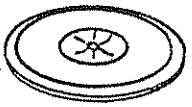
SIZE	T	L	W	MANUFACTURER'S NUMBER		PART NUMBER
				AUV	TIN	
.125	.020	.58	.38	2099	C8625 -020	23-10238-012
.156	.017	.58	.38	1905	C12004-017	23-10238-015
.188	.017	.64	.38	2426	C7859 -017	23-10238-019
.250	.017	.95	.63	2105	C1540 -017	23-10238-025

CLIP, ROD END



ROD DIA	SYMBOL* & TYPE	MANUFACTURER'S NUMBER			PART NUMBER
		AUV	UCF	DRM	
1/4	RIGHT 7R	3613	HS-99376	118-070	23-09397-001
1/4	LEFT 7L	3614	HS-99375	118-075	23-09397-002
3/16	RIGHT 4R			118-040	23-09397-003
3/16	LEFT 4L			118-045	23-09397-004

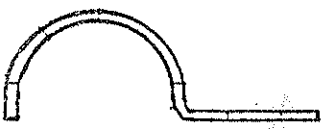
CLIP, SPEED



DIAM	MANUFACTURER'S NUMBER	PART NUMBER
	NSW	
1-1/2	101-301-102	23-10679-000

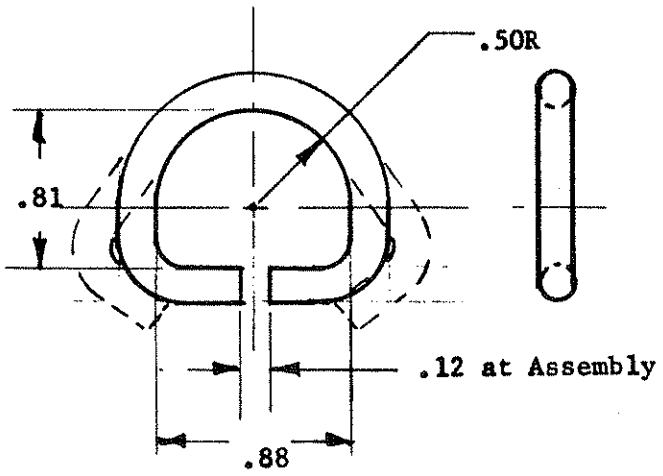
CLIP, TUBING

SIZE	PART NUMBER
3/8	23-09046-000



23-9039

PRINT ISSUED	TITLE	PART NO.
1-23-69	RING, SELF-LOCKING PIN	23-9039
LAST CHG. LTR. B		SHEET OF



CHG	BY	DATE	WAS

CHG	BY	DATE	WAS
B	PRJ	12-23-68	B Size Drawing

(1) 3/16 Dia. Steel x 3-1/2 L6-SAE 1010-1020

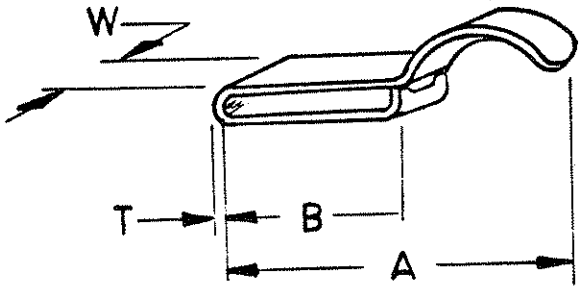
COMPILED	PRJ	DATE DRAWN		MATERIAL	NEXT ASSY. NO.
APPROVED	[signature]	12-23-68		(1)	A23-9036

Portland FREIGHTLINER CORPORATION Oregon 97208

General Use Part

PRINT ISSUED	TITLE	PART NO
	CLIP, WIRING	23-9396
LAST CHG LTR B		SHEET 1 OF 1

SKETCH



PART NUMBERS

A	B	W	T	MANUFACTURER'S NUMBER		FREIGHTLINER PART NUMBER
				AUV		
1.62	.88	.50	.03	1340		23-9396-000
1.06	.69	.50	.03	1341		-001

ENGINEERING NOTES

① Material: Spring Steel

CHG	BY	DATE	WAS
B	DL	3-22-73	Revised & Redrawn; J #A0185

CHG	BY	DATE	WAS

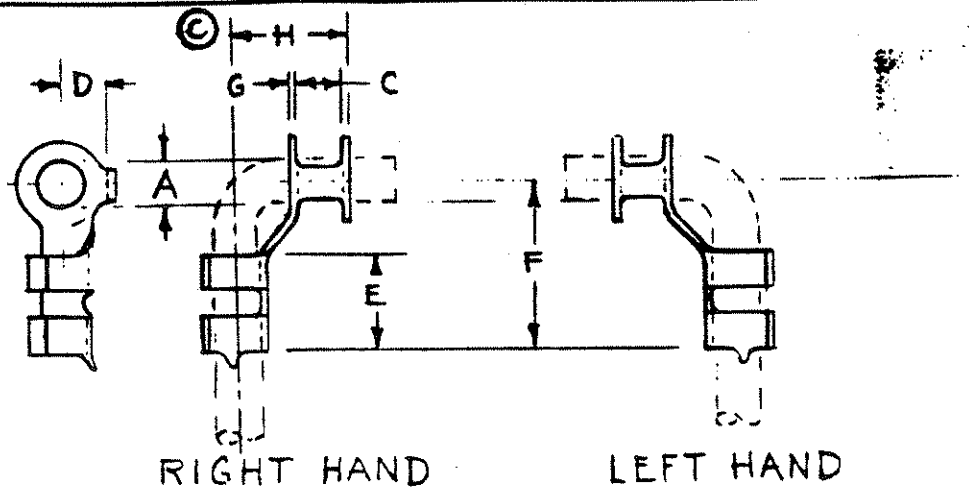
COMPILED	DL	DATE DRAWN		MATERIAL	
APPROVED	a.f.h.	3-22-73		①	

Portland FREIGHTLINER CORPORATION Oregon 97208

General Use Part

PRINT ISSUED	TITLE	PART NO
4/30/71	CLIP, ROD END CLEVIS	23-9397
LAST CHG LTR C		SHEET 1 OF 1

SKETCH



PART NUMBERS

A ROD DIA	C	D	E	F	G	H	TYPE & SYMBOL*	MANUFACTURER'S NUMBER AUV	UCF	DRM	FREIGHTLINER PART NUMBER	
							Right					
							7L	3614	[illegible]	118-075	23-9397-002	
3/16	9/64	9/32	3/8	3/4	.018	11/32	Right 4R			118-040	23-9397-003	C
							Left 4L			118-045	23-9397-004	C

*Stamped on part.

ENGINEERING NOTES

(1) Material: SAE 1050 Steel, Rock. C40-45

DIST	BY	DATE	CHG
A	HJR	4-2-71	UCF & DIMENSIONS ADDED & REDRAWN
B	HJR	7-7-72	Add DRM: J #85770
C	PLD	7-10-79	ADD -003 & -004 P/N's, ADD "H"

COMPILED	HJR	DATE DRAWN		MATERIAL	
APPROVED	[illegible]	4-2-71		(1)	

Portland FREIGHTLINER CORPORATION Oregon 97208

General Use Part

PRINT ISSUED	TITLE	PART NO
1-15-71	RETAINER, PUSH-ON FLAT	23-9457
LAST CHG LTR		SHEET 1 OF 1

SKETCH:



PART NUMBERS

Flat Push-On Retainers Zinc Plated Size (In.)	Mfr. Numbers* AUV		Freightliner Part Number
1/16	8861		23-9457-001
3/32	8862		23-9457-002
1/8	8863		23-9457-003
5/32	8864		23-9457-004
3/16	8865		23-9457-005
.237	8866		23-9457-006
.240	8867		23-9457-007
1/4	8868		23-9457-008
5/16 - .62 O.D.	8869		23-9457-009

ENGINEERING NOTES

1. *AUV = AUVECO

(2) Material: Steel, Zn. Plated.

COMPILED		DATE DRAWN		MATERIAL	
APPROVED		9-15-70		(2)	

Portland FREIGHTLINER CORPORATION Oregon 97208

WAS | DATE | BY | CHG

WAS | DATE | BY | CHG

General Use Part

PRINT ISSUED		TITLE	PART NO.
		CLIP, HITCH PIN	23-10199
LAST CHG LTR	–		SHEET 1 OF 1

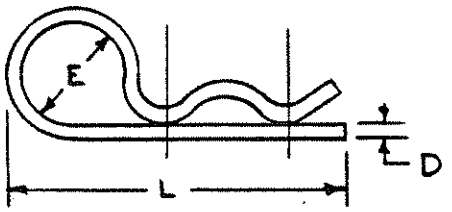
WAS

DATE

BY

CHG

SKETCH



PART NUMBERS

D WIRE DIAM	L LENGTH	E EYE	FOR SHAFT MAX.	FOR SHAFT MIN.	FOR HOLE SIZE	MANUFACTURER'S NUMBER WWW	MANUFACTURER'S NUMBER LTZ	FREIGHTLINER PART NUMBER
.062	1.31	.31	1/2	1/4	5/64	22		23-10199-060

WAS J #A0626

DATE —

BY —

CHG —

ENGINEERING NOTES

(1) Material: Oil Tempered Steel Spring Wire

2. Finish: Plain

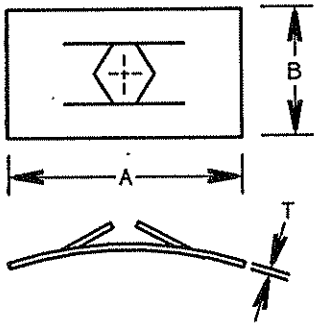
COMPILED	HJR	DATE DRAWN		MATERIAL	
APPROVED	Rollins	5-18-73		(1)	

ns

Portland FREIGHTLINER CORPORATION Oregon 97208

DRAWN	ERK	TITLE RETAINERS PUSH-ONS	ITEM NUMBER 23-10238
APPRV	APM		
DATE	12/23/93	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1

VARIATIONS:



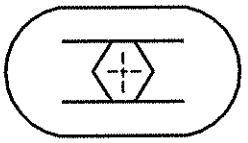
STANDARD RECTANGLE



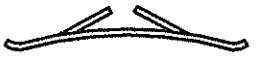
A
FOR
ROUND STUDS



B
FOR
HARDENED STUDS



L
SIDES CUT OFF



P
TURNED UP ENDS

PART NUMBERS:

STUD SIZE (DIA)	TYPE	DESIGN VARIATIONS	A	B	T	MANUFACTURER			FREIGHTLINER PART NUMBER
						AUV	TIN	AFJ	
.125	RECT.	A	.58	.38	.020	2099	C8625-020	-	23-10238-012
.156	RECT.	A	.56	.38	.017	1905	C12004-017	-	23-10238-015
.188	RECT.	STD.	.64	.38	.017	2426	C7859-017	-	23-10238-019
.250	RECT.	STD.	.95	.63	.017	2105	C1540-017	-	23-10238-025
.470	RECT.	BL	.91	.63	.017	-	-	01-00989	23-10238-047
.500	RECT.	STD.	1.23	.88	.017	-	C501-017	01-00076	23-10238-050

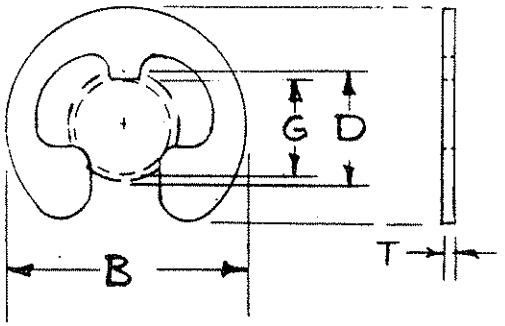
C
D

1. MATERIAL: CARBON STEEL

CHG	JOB/RLSE NO	DATE	BY	REVISION
C	P2266J-01	12/23/93	ERK	REDRAWN; -047 ADDED
D	P4135K-01	06/24/94	ERK	-050 ADDED

PRINT ISSUED		TITLE	PART NO.
		RING, RETAINING, EXTERNAL (REINFORCED "E")	23-10298
LAST CHG. LTR.	B		SHEET 1 OF 1

SKETCH



PART NUMBERS

D SHAFT DIAMETER	RING B (FREE	RING T ±.002	G GROOVE DIA.		MANUFACTURER'S NUMBER WKI	MANUFACTURER'S NUMBER IRR	FREIGHTLINER PART NUMBER*
.250	.516	.025	.210		5144-25	1200-25	23-10298-025
.375	.660	.035	.303			1200-37	-037
.500	.810	.042	.396			1200-50	-050

*Dash number is shaft diameter in hundredths of an inch.

ENGINEERING NOTES

(1) Material: Carbon steel, spring tempered per mfr. specification.

COMPILED	HJR	DATE DRAWN		MATERIAL	MASTER NUMBER
APPROVED		12-14-73		(1)	02200 000D1

Portland FREIGHTLINER CORPORATION Oregon 97208

CHG	BY	DATE	WAS

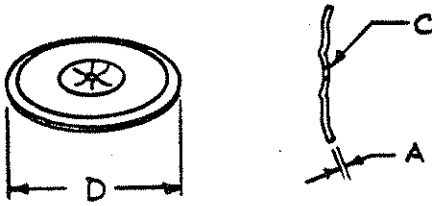
CHG	BY	DATE	WAS
—	—	—	J#A0557
A	HJR	4-15-74	Delete -019, Add -025, C
B	FHF	3-20-86	Add -037 & -050, P*F058

General Use Part

PRINT ISSUED	TITLE	PART NO.
	CLIP, SPEED	23-10679
LAST CHG. LTR. —		SHEET 1 OF 1

WAS JOB NO. | DATE | BY | CHG

SKETCH



PART NUMBERS

D DIA	C	A THICK-NESS		MANUFACTURER'S NUMBER		FREIGHTLINER PART NUMBER
				NSW		
1-½	.105(12ga.)	.021		101-301-102		23-10679-000

WAS JOB NO. A0719 | DATE | BY | CHG

ENGINEERING NOTES

(1) Material: Mild Steel

2. FINISH: Zinc or Cadmium Plated.

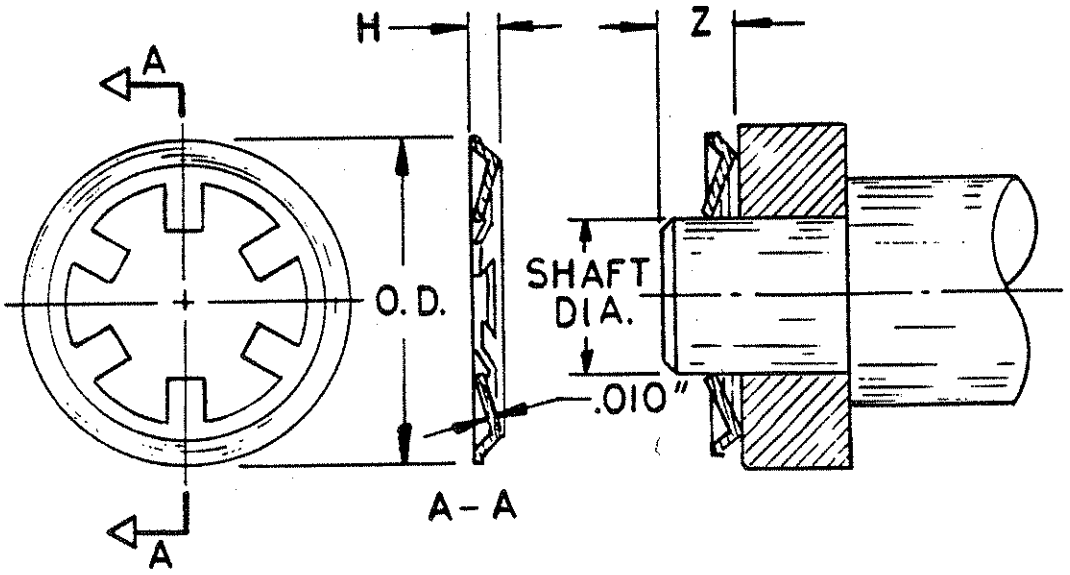
COMPILED	HJR	DATE DRAWN		MATERIAL	NEXT ASSY. NO.
APPROVED		12-10-74		(1)	

Portland FREIGHTLINER CORPORATION Oregon 97208

General Use Part

ORIGINAL JOB NO.	TITLE	PART NO.
A0861	RETAINING RINGS, EXTERNAL	23-11035
LAST CHG LTR		SHEET 1 OF 1

SKETCH



PART NUMBERS

SHAFT DIAMETER FROM	SHAFT DIAMETER TO	OD	H	ALLOW. THRUST LBS	Z (2)	MANUFACTURER'S NUMBER WK1		FREIGHTLINER PART NUMBER
.091	.097	.326	.029	27	.058	5115-9		23-11035-009
.121	.129	.366	.029	38	.058	-12		-012
.152	.160	.397	.029	45	.058	-15		-015
.184	.192	.444	.031	55	.062	-18		-018
.246	.254	.522	.037	58	.074	-25		-025
.308	.316	.584	.037	60	.074	-31		-031
.371	.379	.645	.037	65	.074	-37		-037

ENGINEERING NOTES

(1) MATERIAL: Carbon Spring Steel (SAE 1060-1090)
(2) Minimum distance from face of retained part to end of shaft.

COMPILED	D.LeL.	DATE DRAWN		MATERIAL	
APPROVED		5-20-77		(1)	

CHANGE INFORMATION | LTR | JOB NO. | BY | DATE

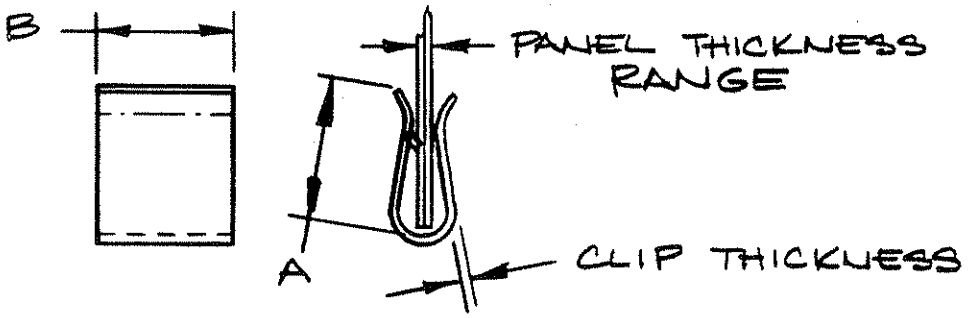
CHANGE INFORMATION | LTR | JOB NO. | BY | DATE

03060 0001

ORIGINAL JOB NO.	TITLE	PART NO.
	Clip, Spring	23-11198
LAST CHG LTR B		SHEET 1 OF 1

Scope This specification identifies a steel clip that secures two panels or flanges together.

Sketch



SPECIFICATION NUMBERS

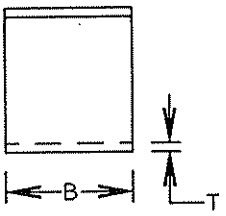
	Panel Thickness Range	A	B	Clip Thickness	Manufacturer's No. TIN		Freightliner Specification Number
	.100-.156	.68	.63	.025	C21457-025		23-11198-001
(A)	.170-.250	.43	.50	.014	C43806-014-4		23-11198-002
(B)	.115-.185	.42	.50	.014	C27091-014		23-11198-003

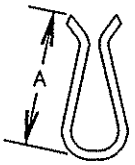
1. Material - Spring Steel.

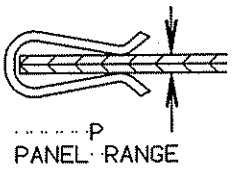
CHANGE INFORMATION					
LTR	JOB NO.	BY	DATE	CHANGE INFORMATION	
A	C15000	PWS	1-25-80	FROM C21457-025 TO C43806-014-4	
B	M0238	DL	3-29-84	Add -003	

COMPILED	PWS	DATE DRAWN			
APPROVED	NW	3/6/79			

DRAWN	PWS	TITLE	ITEM NUMBER
APPRV	NJA	SPEED CLIP "U" TYPE, STANDARD	23-11198
DATE	03/06/79	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1





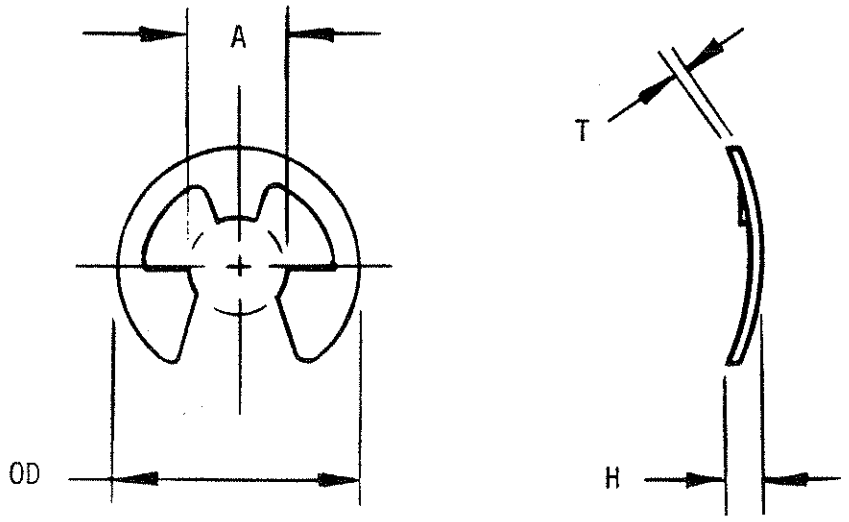


P PANEL RANGE	A	B	T	SUPPLIER & NO.		FREIGHTLINER PART NUMBER
				TIN	AFJ	
.115-.185	.42	.50	.014	C27091-014-4	01-01306	23-11198-003
.170-.250	.43	.50	.014	C43806-014-4	-	23-11198-002

1. MATERIAL: SPRING STEEL
2. FINISH: PHOSPHATE AND OIL

CHG	JOB/RLSE NO	DATE	BY	REVISION
C	PA2042-64	01/17/96	ERK	REDRAWN

ORIGINAL JOB NO.	TITLE	PART NO.
C1885	RETAINING RING, BOWED	23-11327
LAST CHG LTR		SHEET 1 OF 1



Shaft Dia.	A	OD	H	T	Manufacturer's Number		Freightliner Part Number
					WKI		
.250	.207	.527	.067	.025	5131-25		23-11327 - 025

Engineering Notes

(1) Material: Carbon spring steel (SAE 1060-1090)

COMPILED	PWS	DATE DRAWN		Material	
APPROVED	PWS	9-24-82		(1)	

CHANGE INFORMATION | LTR | JOB NO. | BY | DATE

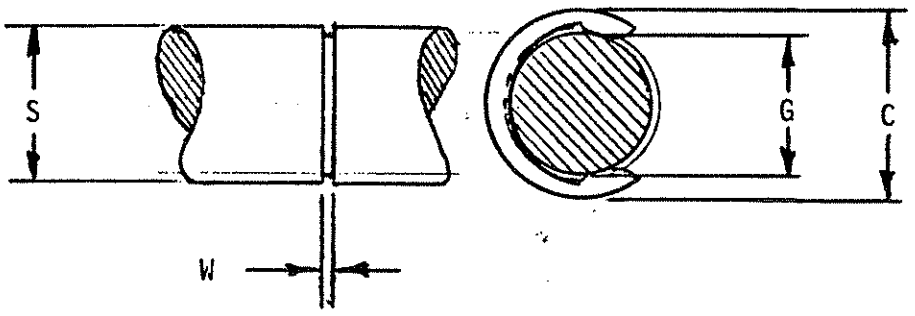
CHANGE INFORMATION | LTR | JOB NO. | BY | DATE

EAC-826

Portland FREIGHTLINER CORPORATION Oregon 97208

M/F

ORIGINAL JOB NO.	TITLE	PART NO.
N0141	RING, RETAINING, EXTERNAL CRESCENT	23-11482
LAST CHG LTR A		SHEET OF



S Shaft Dia.	W Groove Width	G Groove Dia.	C Ring Dia. Expanded	Manufacturers' Number			Freightliner Part Number*
						WK1	
.406	.029	.364	.50			5103-40	23-11482-040
.500	.039	.450	.60			5103-50	23-11482-050

*Dash number is shaft diameter in hundredths of an inch

ENGINEERING NOTES:

Material: Carton steel, spring tempered per manufacturers' specifications

LTR	JOB NO.	BY	DATE	CHANGE INFORMATION

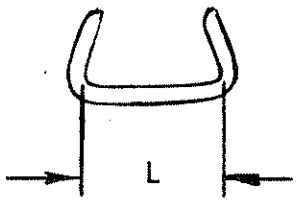
LTR	JOB NO.	BY	DATE	CHANGE INFORMATION
A	60218	JA	5-24-85	Add -050

COMPILED	RP	DATE DRAWN			
APPROVED		7-18-83			

23-11660

ORIGINAL JOB NO.	TITLE	PART NO.
M0267	RING, RETAINING, UPHOLSTERY	23-11660
LAST CHG LTR		SHEET 1 OF 1

SKETCH:



PART NUMBERS:

L Length	Wire Gauge	Manufacturer's Number	Freightliner Part Number*
3/4"	14	① **	23-11660-075

*Dash number equal length in hundredths of an inch.

**Order by description.

ENGINEERING NOTES:

① Material: Steel, zinc or Cad plated.

2. Finish: Super polished.

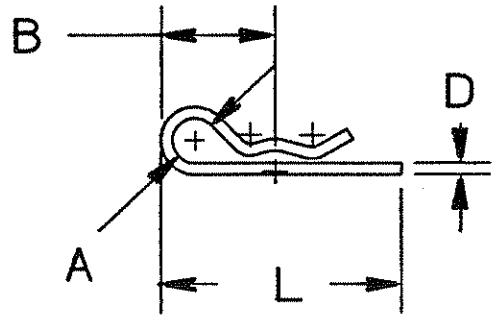
3. Commonly referred to as "Hog Ring".

CHANGE INFORMATION	DATE	BY	JOB NO.	JR

CHANGE INFORMATION	DATE	BY	JOB NO.	JR

COMPILED	MGP	DATE DRAWN	Master Number		Unit of Measure
APPROVED	BCK	4-20-84	02200	000D1	EACH

DRAWN	EWB	TITLE	ITEM NUMBER
APPRV	RDF	PIN, HITCH	23-12012
DATE	05-10-88	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1



NOM SIZE	D WIRE DIA	DRILL HOLE SIZE	MIN SHAFT DIA	MAX SHAFT DIA	L MAX OVERALL LENGTH	A INSIDE DIA OF EYE	B MAX	F/L NO.
3/32	.080	3/32	1/4	3/8	1-1/4	3/16	3/4	-000

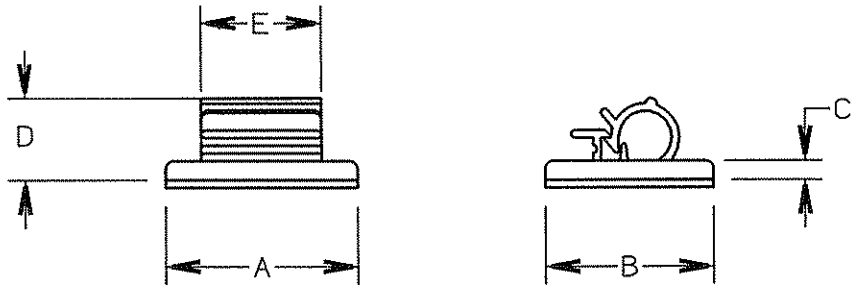
1. MATERIAL: OIL TEMPERED SPRING WIRE ASTM A229.

2. FINISH: ZINC PLATED WITH SUPPLEMENTARY CLEAR CHROMATE TREATMENT PER F/L SPEC 49-00005-403.

3. REFERENCE: WESTERN WIRE PRODUCTS 314/771-6100 WW CLIP NO. 13 OR EQUIVALENT.

CHG	JOB/RLSE NO	DATE	BY	REVISION
-	P9118E-01	06-02-88	EWB	DOCUMENTED

DRAWN	ERK	TITLE CLIP-NYLON W/PSA	ITEM NUMBER **23-12137**
APPRV	FSC		
DATE	01/28/93	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1

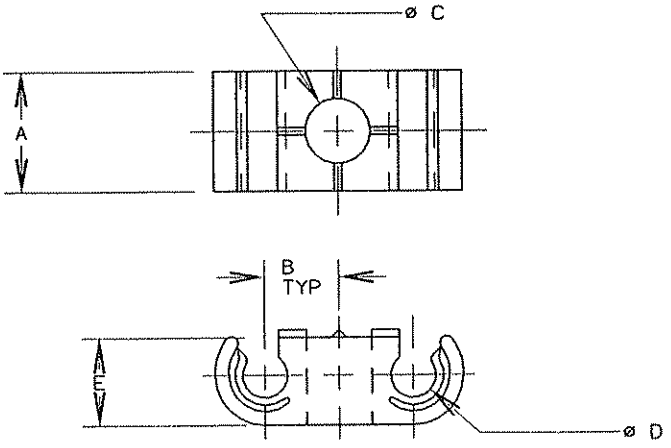


MAX WIRE BUNDLE DIA (IN)	DIMENSIONS (IN)					VENDOR PART NO	FREIGHTLINER PART NUMBER
	A	B	C	D	E	AFJ	
.250	1.00	.855	.100	.415	.620	08-80052	23-12137-001

1. MATERIAL: NYLON
2. COLOR: GRAY
3. MAX SERVICE TEMP.: 200° F
4. CLOSED CELL FOAM WITH PRESSURE SENSITIVE ADHESIVE AND BACKING.
5. VENDOR AS SPECIFIED OR APPROVED ENGINEERING EQUIVALENT.

CHG	JOB/RLSE NO	DATE	BY	REVISION
-	P1427F-02	01/28/93	ERK	INITIAL RELEASE

DRAWN	DAJ	TITLE CLIP-T NYLON	ITEM NUMBER 23-12203
APPRV	ERK		
DATE	12/12/94	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1



HOLDING RANGE	DIMENSIONS (IN)					VENDOR NUMBER	FREIGHTLINER PART NUMBER
	A	B	C	D	E	ARDEN	
1/4-5/16	.630	.315	.341	.234	.457	05-52729	23-12203-001

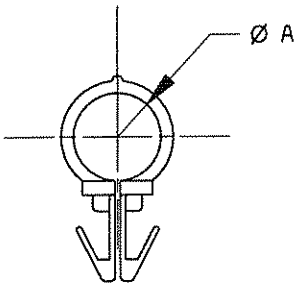
ENGINEERING NOTES:

1. MATERIAL: NYLON
2. FINISH: NATURAL
3. MAX SERVICE TEMP.: 210°F
4. DIMENSIONS: ABOVE DIMENSIONS FOR REFERENCE ONLY.

CHG	JOB/RLSE NO	DATE	BY	REVISION
-	PN0614-09	12/12/94	DAJ	INITIAL RELEASE

DEBBIE

DRAWN	LFB	TITLE CLIP-WIRE NYLON	DRAWING NUMBER 23-12256
APPRV	DAJ		
DATE	01/13/00	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. A
CATIA ORIGINAL			



PANEL HOLE DIAMETER	PANEL THICKNESS	DIM A	VENDOR PART NUMBER	FREIGHTLINER PART NUMBER
.250	.030-.125	.375	AFJ 08-80851	23-12256-000
.250	.030-.125	.500	ITW 220-242400-06	23-12256-001
.250	.030-.125	.750	ITW 220-242400-07	23-12256-002

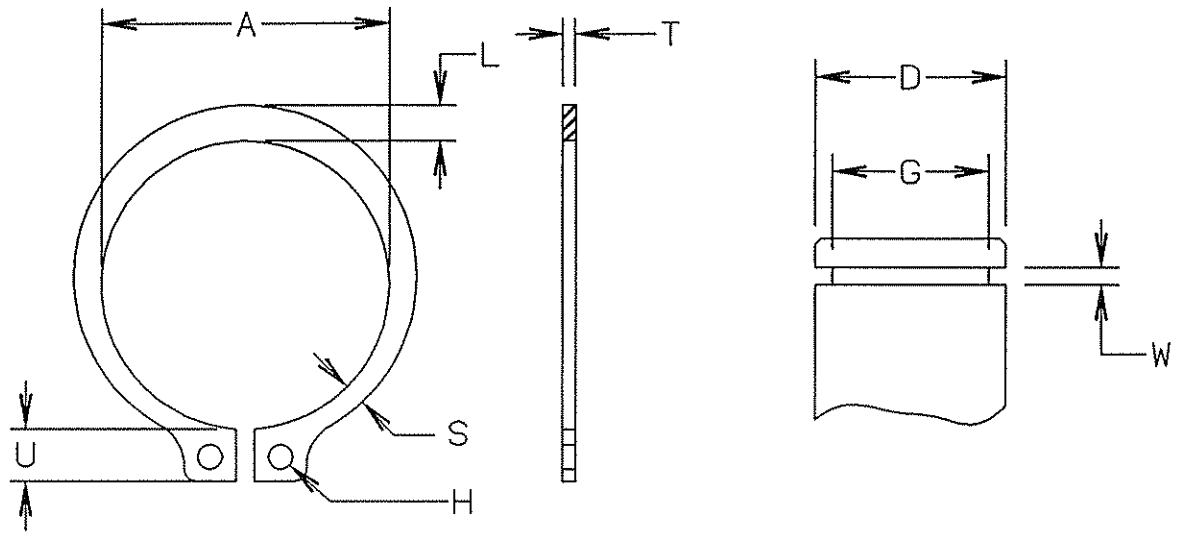
A

ENGINEERING NOTES:

1. MATERIAL: NYLON.
2. FINISH: NATURAL.
3. ALL DIMENSIONS ARE FOR REFERENCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
A	P07658-85	01/13/00	LFB	REDRAWN IN CATIA. ADDED -001 AND -002.

DRAWN	ERK	TITLE RING-RETAINER EXTERNAL, CARBON STEEL	ITEM NUMBER 23-12293
APPRV	NZ		
DATE	11/27/95	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1



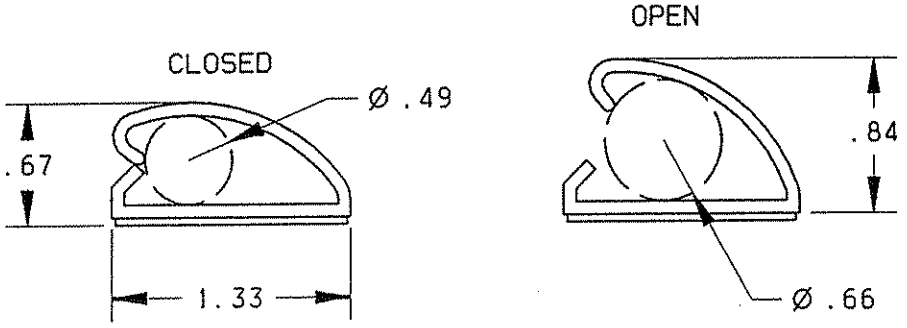
D SHAFT DIA. IN (MM)	A FREE DIA.	L	U	H	S	T	GROOVE DIMENSIONS		FREIGHTLINER PART NUMBER
							G	W	
1.00 (25.4)	.925	.116	.167	.078	.065	.042	.940	.046	23-12293-100

1. MATERIAL: CARBON SPRING STEEL
2. FINISH: BLACK PHOSPHATE COATING OR OIL-DIPPED
3. SUPPLIER: WALDES "TRUARC 5100" OR APPROVED EQUIVALENT.

CHG	JOB/RLSE NO	DATE	BY	REVISION
-	PM0639-02	11/27/95	ERK	INITIAL RELEASE

ADRIENNE CHILBERG

DRAWN	DAJ	TITLE	DRAWING NUMBER
APPRV	DAJ	CLAMP - CABLE ADHESIVE	23-12301
DATE	03/26/98	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. A
CATIA ORIGINAL			



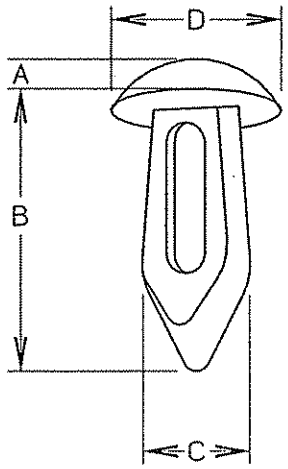
LENGTH	DIMENSIONS			MAX. WIRE BUNDLE		VENDOR/PN	FREIGHTLINER PART NUMBER
	B	C	D	E	F	TYTON	
1.25	1.50	.75	1.35	.453	.217	52-1000C2	23-12301-000
A .76	.76	.40	.66	.250	.250	-	23-12301-001

ENGINEERING NOTES:

1. MATERIAL: BACKING-CLOSED CELL CROSSLINKED POLYETHYLENE FOAM .032 THK
   ADHESIVE-RUBBER BASE
   DENSITY (PCF) 6
2. 180 DEGREE PEEL ADHESION: ROLL SIDE-FOAM TEAR
   LINER SIDE-FOAM TEAR
3. SHEAR, PSTC 7 (HOURS): 200+
4. TENSILE STRENGTH (FOAM (PSI) ASTM-D1564): MINIMUM 150
5. ELONGATION TO BREAK (ASTM-D1564): MINIMUM 300
6. DWELL (HOURS PRIOR TO FULL LOADING): 2
7. SERVICE TEMP RANE (°F): -20 TO 150
8. DIMENSION PROVIDED FOR REFERENCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
A	P2D360-48	03/26/98	DAJ	REVISED AND REDRAWN IN CATIA, ADDED -001.

DRAWN	ERK	TITLE CLIP NYLON ARROW	ITEM NUMBER 23-12334
APPRV	PXD		
DATE	03/21/96	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1



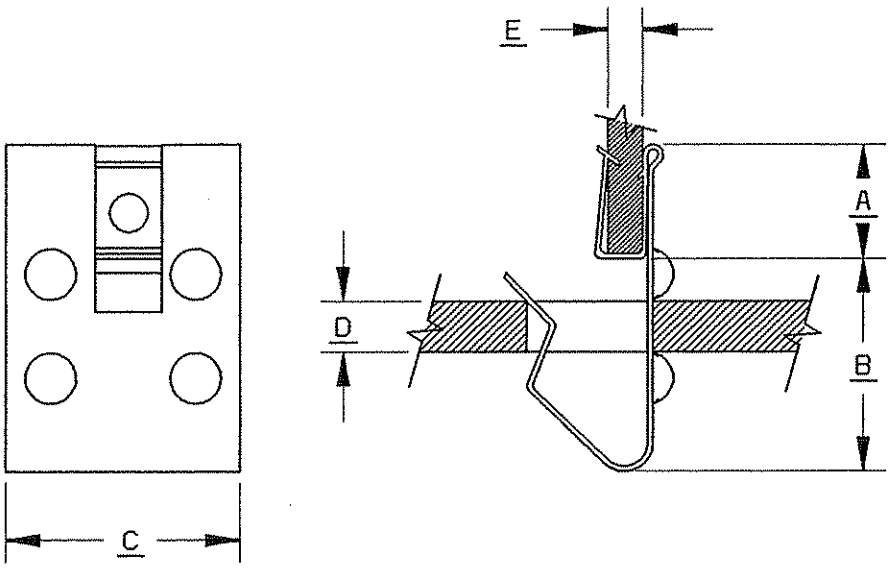
A	B	C	D	HOLE SIZE	COLOR	SUPPLIER AFJ	FREIGHTLINER PART NUMBER
.040	.390	.196	.280	.151/.161	NATURAL	08-82104	23-12334-001
					BLACK	08-86525	23-12334-

MATERIAL: MOLDED NYLON

CHG	JOB/RLSE NO	DATE	BY	REVISION
-	PN0454-49	03/21/96	ERK	INITIAL RELEASE

ADRIENNE CHILBERG

DRAWN	FHC	TITLE CLIP-RETAINER, PNL	DRAWING NUMBER 23-12400
APPRV	DAJ		
DATE	10/29/96	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. -
CATIA ORIGINAL			



PANEL HOLE SIZE	DIMENSIONS					MANUFACTURER PART NUMBER	FREIGHTLINER PART NUMBER
	A	B	C	D	E		
1.220 X .472	.354/ .433	.768/ .807	.846/ .886	.157 NOM.	.138 NOM.	TINNERMAN D98684-051M	23-12400-000

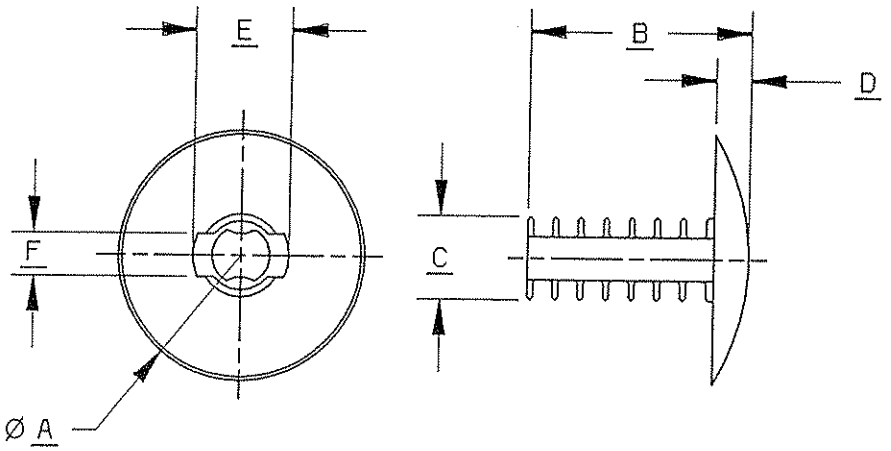
ENGINEERING NOTES:

1. MATERIAL: SAE 1050-1065 (.020 THK) HEAT TREAT AUSTEMPER.
2. FINISH: PLAIN
3. DIMENSIONS ABOVE ARE FOR REFERANCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
-	PB4501-20	10/29/96	FHC	INITIAL RELEASE

HORIENNE CHILBERG

DRAWN	DAJ	TITLE CAP-STUD 6/6	DRAWING NUMBER 23-12454
APPRV	DAJ		
DATE	10/13/97		
CATIA ORIGINAL		FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. -



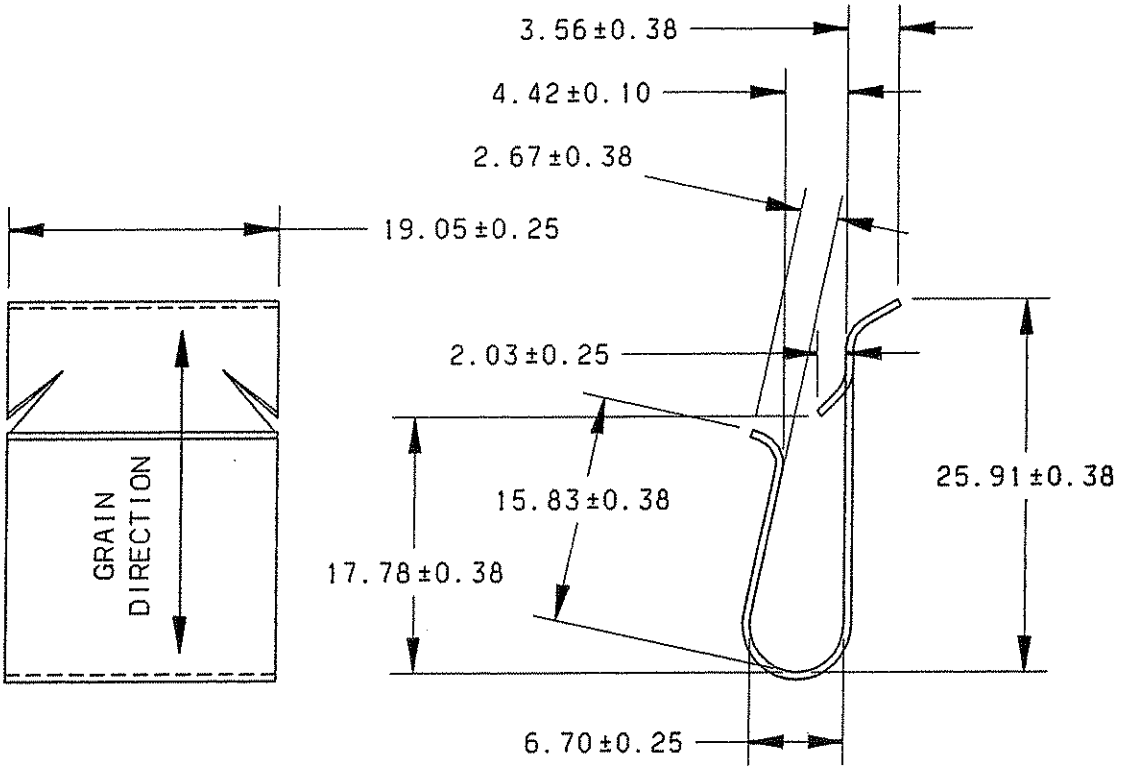
DIMENSIONS						VENDOR/PN	FREIGHTLINER PART NUMBER
A	B	C	D	E	F	ARDEN	
34.0	22.4	11.4	4.4	13.4	7.0	08-89389	23-12454-000

ENGINEERING NOTES:

1. MATERIAL: NYLON 6/6
2. COLOR: BLACK
3. DIMENSIONS ARE FOR REFERENCE ONLY.
4. VENDOR: EQUIVALENT WITH ENGINEERING APPROVAL

CHG	JOB NO	DATE	BY	REVISION
-	P02595-11	10/13/97	DAJ	INITIAL RELEASE

DRAWN	NXM	TITLE	DRAWING NUMBER	
APPRV	DAJ	"U" TYPE CLIP OFFSET LEG WITH SINGLE LEG BARB	23-12506	
DATE	04/01/98	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1	CHG. LTR. -
CATIA ORIGINAL				



FR VIEW
SCALE 2:1

SIDE VIEW
SCALE 2:1

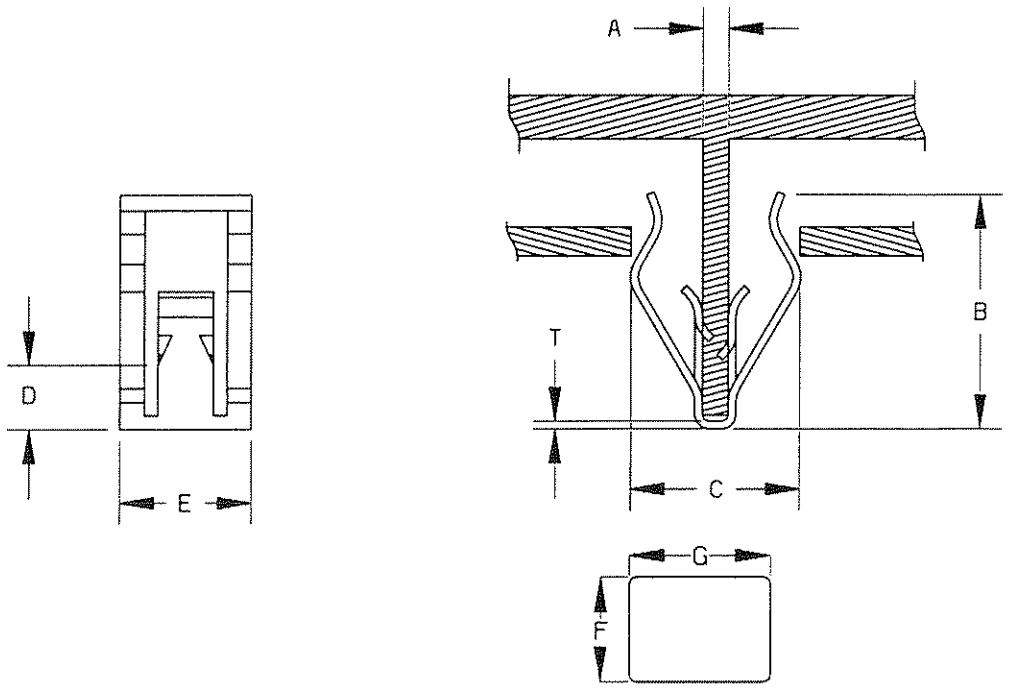
-000 SHOWN

1. MATERIAL: HIGH CARBON SPRING STEEL
2. FINISH: ZINC PLATE PER FTL 49-00005-403
3. ALL DIMENSIONS ARE FOR REFERENCE ONLY
4. VENDER: EATON/TINNERMAN

CHG	JOB NO	DATE	BY	REVISION
-	P2D241-38	04/01/98	NXM	INITIAL RELEASE

23-12517 , B , ,CLIP-RETAINER,PNL

DRAWN	JFR	TITLE CLIP-RETAINER, PNL	DRA.. ..G NUMBER 23-1..17
APPRV	DAJ		
DATE	05/14/98		
CATIA ORIGINAL		FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. B



PANEL HOLE SIZE

DIMENSIONS								VENDOR/PN	FREIGHTLINER PART NUMBER
A	B	C	D	E	F	G	T	EATON	
2.10/ 1.70	17.0/ 16.0	13.1/ 11.9	5.96/ 4.96	10 MAX	8.5	16	0.56	D98568-056M	23-12517-000
2.10/ 1.70	15.05/ 14.05	14.5/ 13.5	4.69/ 3.69	-	10.8	15	0.56	D98653-056M	23-12517-001
1.43/ 1.17	9.50	7.80	3.63	10.5	6.25	11	0.43	D98646-043M	23-12517-002

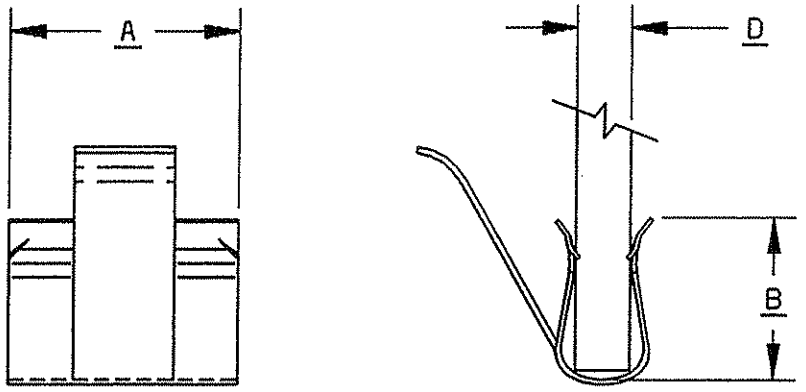
B

ENGINEERING NOTES:

1. MATERIAL: HEAT TREATED SPRING STEEL
2. FINISH: PHOS-OIL (REF SPEC 49-00006-041).
3. DIMENSIONS ABOVE ARE FOR REFERANCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
-	P04414-01	05/14/98	JFR	INITIAL RELEASE
A	P06644-01	10/08/98	ARM	ADDED -001, ADDED DIM F & DIM G
B	P05733-08	07/15/99	CGD	ADDED 23-12517-002

DRAWN	DAJ	TITLE	DRAWING NUMBER
APPRV	DAJ	CLIP-SPRING, U-TYPE	23-12523
DATE	06/23/98	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. -
CATIA ORIGINAL			



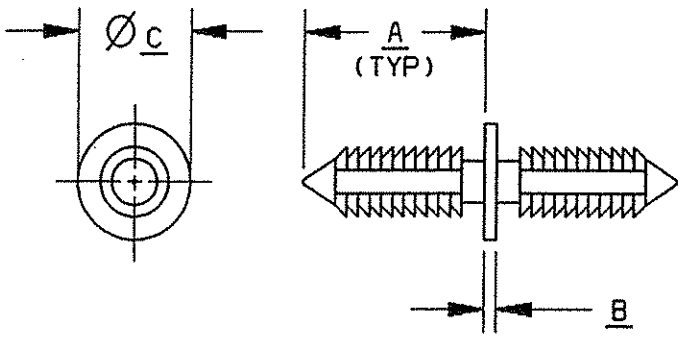
A	B	D PANEL THCKNESS	MANUFACTURER PART NUMBER	FREIGHTLINER PART NUMBER
.535	.318	.060-.090	TINNERMAN C29019-014	23-12523-000

ENGINEERING NOTES:

1. MATERIAL: SPRING STEEL (.011 THCK)
2. FINISH: ZINC PLATED
3. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
-	P00699-93	06/23/98	DAJ	INITIAL RELEASE

DRAWN	DAJ	TITLE	DRAWING NUMBER	
APPRV	DAJ	RETAINER-DOUBLE ENDED NYLON	23-12526	
DATE	07/09/98			
CATIA ORIGINAL		FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1	CHG. LTR. -



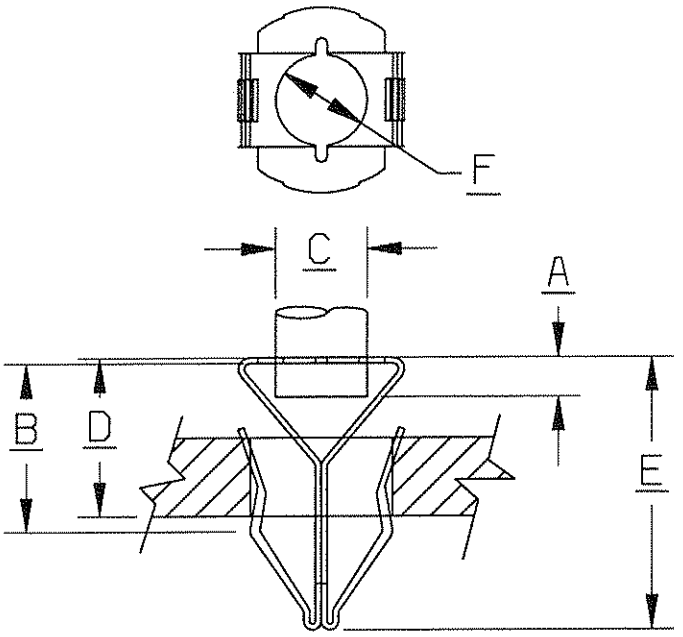
DIMENSION			HOLE DIA.	PANEL THICKNESS	SOURCE		FREIGHTLINER PART NUMBER
A	B	C			VENDOR	PART NO.	
.607	.062	.500	.250	.250-.090	ARDEN	PC47535	23-12526-000

ENGINEERING NOTES:

1. MATERIAL: NYLON
2. DIMENSIONS ARE SHOWN FOR REFERENCE ONLY.
3. EQUIVALENT ACCEPTABLE WITH ENGINEERING APPROVAL.

CHG	JOB NO	DATE	BY	REVISION
-	P2D260-46	07/09/98	DAJ	INITIAL RELEASE

DRAWN	PJD	TITLE	DRAWING NUMBER	
APPRV	DAJ	CLIP-RETAINER, PNL	23-12532	
DATE	12/14/98			
CATIA ORIGINAL		FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1	CHG. LTR. A



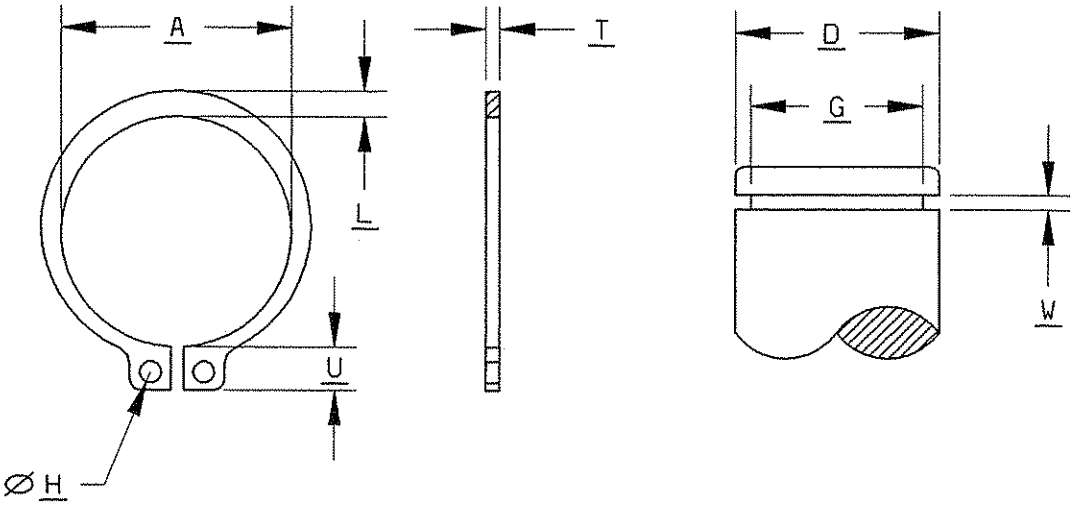
	PANEL HOLE SIZE	DIMENSIONS						MANUFACTURER PART NUMBER	FREIGHTLINER PART NUMBER
		A	B	C	D	E	F		
A	Ø 7.5 7.25	4.2	16.25 16.75	Ø 9.0 9.3	13.50	25.8	Ø8.8	D98924-056M	23-12532-000

ENGINEERING NOTES:

1. MATERIAL: SAE 1050-1065 (.22 THK) HEAT TREAT AUSTEMPER.
2. FINISH: PHOSPHATE
3. DIMENSIONS ABOVE ARE FOR REFERANCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
-	P00805-01	12/14/98	PJD	INITIAL RELEASE
A	PA2042-98	12/01/99	LFB	D98924-056M WAS DX6553-071M.

DRAWN	DAJ	TITLE	DRAWING NUMBER	
APPRV	DAJ	RING - RETAINER, METRIC EXTERNAL, CARBON STEEL	23-12568	
DATE	12/16/98			
CATIA ORIGINAL		FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1	CHG. LTR. -



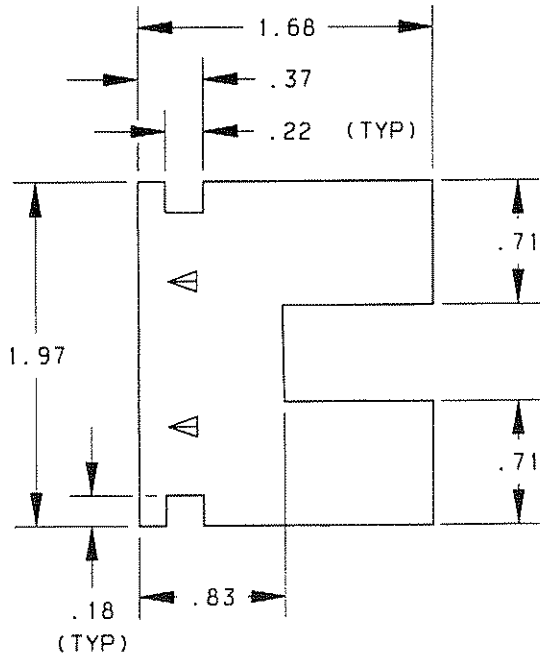
D SHAFT DIA. IN (MM)	A FREE DIA.	L	U	H	T	GROOVE DIMENSIONS		FREIGHTLINER PART NUMBERS
						G	W	
10.0	9.3	1.8	3.3	1.5	1.0	9.6	1.10	23-12568-010
14.0	12.9	2.1	3.5	1.7	1.0	13.4	1.10	23-12568-014

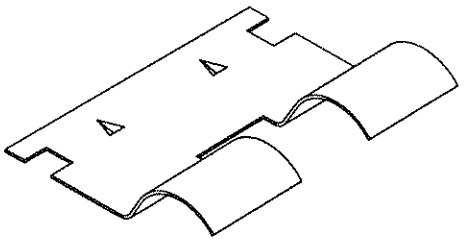
ENGINEERING NOTES:

1. MATERIAL: CARBON SPRING STEEL
2. FINISH: BLACK PHOSPHATE COATING OR OIL-DIPPED
3. SUPPLIER: ENGINEERED FASTENER CO. OR APPROVED EQUIVALENT.

CHG	JOB NO	DATE	BY	REVISION
-	F28408-14	12/16/98	DAJ	INITIAL LOAD

DRAWN	CGD	TITLE: CLIP-SPRING	DRAWING NUMBER: 23-12678
APPRV	DAJ		
DATE	08/26/99	FREIGHTLINER CORPORATION, PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. A
CATIA ORIGINAL			





-000 SHOWN

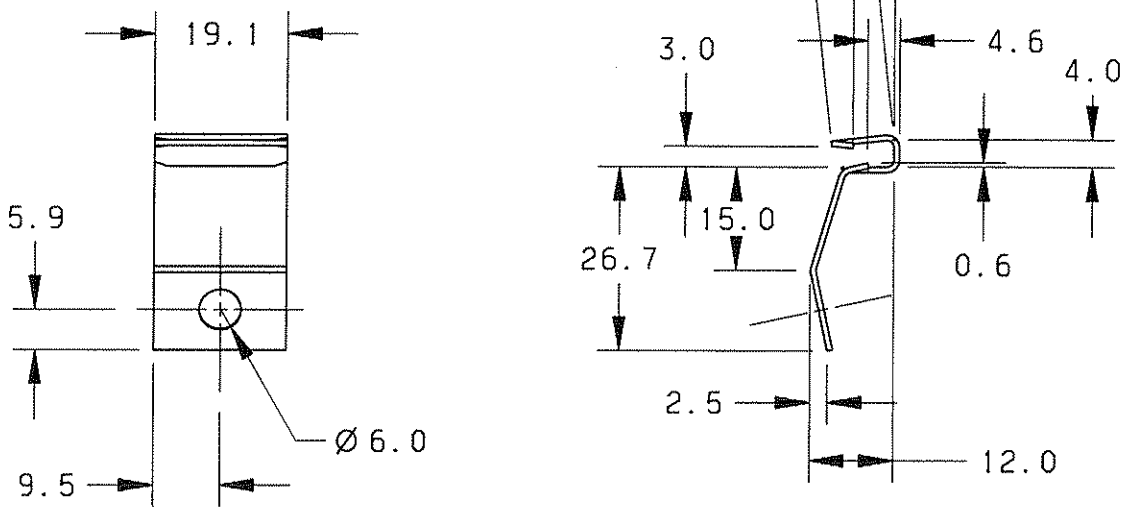


ENGINEERING NOTES:

1. MATERIAL: SPRING STEEL, (26 GA) ROCK C 40-45.
2. FINISH: ZINC PLATED PER F/L SPEC 49-00005-403
3. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

CHG	JOB NO	DATE	BY	REVISION
-	P07658-22	08/26/99	CGD	INITIAL RELEASE
A	P07658-46	10/14/99	LFB	ADDED DIMENSIONS, REVISED MATERIAL NOTE.

DRAWN	SBT	TITLE CLIP-BEZEL, LWR OUTBD, MTG	DRAWING NUMBER 23-12690
APPRV	DAJ		
DATE	10/13/99		
CATIA ORIGINAL		FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. A



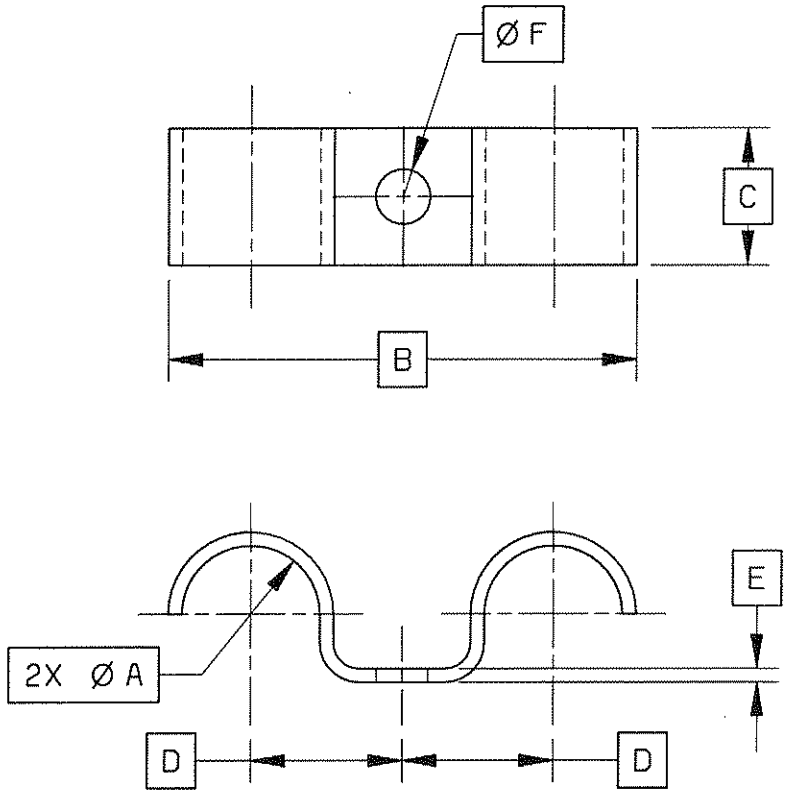
	MAT'L THICKNESS	PNL THK	FREIGHTLINER PART NUMBER
A	0.8	3.0-3.5	23-12690-000

ENGINEERING NOTES:

1. MATERIAL: HIGH CARBON SPRING STEEL
2. FINISH: ZINC PLATE PER F/L SPEC 49-00005-403
3. DIMENSIONS ARE FOR REFERENCE ONLY
A 4. ALL DIMENSIONS IN MM.

CHG	JOB NO	DATE	BY	REVISION
-	P06868-59	09/27/99	SBT	INITIAL RELEASE
A	PA2042-98	12/01/99	LFB	0.8 WAS .031. ADDED NOTE 4.

DRAWN	AJD	TITLE CLIP-TUBING BRASS	DRAWING NUMBER 23-12765
APPRV	DAJ		
DATE	02/08/00	FREIGHTLINER CORPORATION PORTLAND, OREGON	SHEET 1 OF 1 / CHG. LTR. -
CATIA ORIGINAL			



ØA (IN)	B	C	D	E	ØF	PARKER PART NUMBER	FREIGHTLINER PART NUMBER
0.625	54.0	15.9	17.5	1.6	6.4	3121-4-10	23-12765-063

CHG	JOB NO	DATE	BY	REVISION
-	P10481-07	02/08/00	AJD	INITIAL RELEASE