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Custom Control Cables is a division of
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Features & Construction

Core Constructions

High Performance (HP) 1 x 7 coated core is available in 3, 4 and 6 Series cables. HP Core uses a proprietary coating over 1 x 7 wire rope. This construction offers improved flexibility and higher push loads than armor core construction. Solid stainless steel cores are available in 3 Series push-pull, universal, positive lock and PTO cables. Tension cables use a 1 x 19 HP coated core, while 8 Series push-pull remains armor core.

Liners

All Felsted® brand cables use polymer liners, available in standard HP cable construction at -65 to +225°F (-54 to +107°C) and HEFT 2 high temperature version at -65 to +300°F (-54 to +149°C). Factory lubrication provides optimum core performance without requiring further service.

Note: With quick disconnect control head cables, though the conduit/core may be rated to +225°F or +300°F, the control head itself is not intended for these temperature ranges.

Stranded Conduit

Multiple oil tempered spring wires are placed in a long lay pattern to protect the liner and inner core, maintain flexibility and withstand extreme compressive and tensile loads. This long lay construction results in minimal deflections during cable operation, assuring precise controlling action to the operator.

Conduit Jacket

Heavy duty, thick-walled polymer jackets are extruded onto the stranded liner for maximum cable strength. Standard HP cable material is polymer molded to a dark maroon color. HEFT 2 jacket, used in high temperature applications, is a nylon based material molded to a satin black color.

End Fittings

Corrosion-resistant materials are used throughout to provide maximum life. Standard 3, 4 and 6 Series rods and sleeves are 300 series stainless steel, while hubs are either stainless or aluminum. The 8 Series rods are stainless steel. Sleeves and hubs are aluminum with stainless steel options available for both.

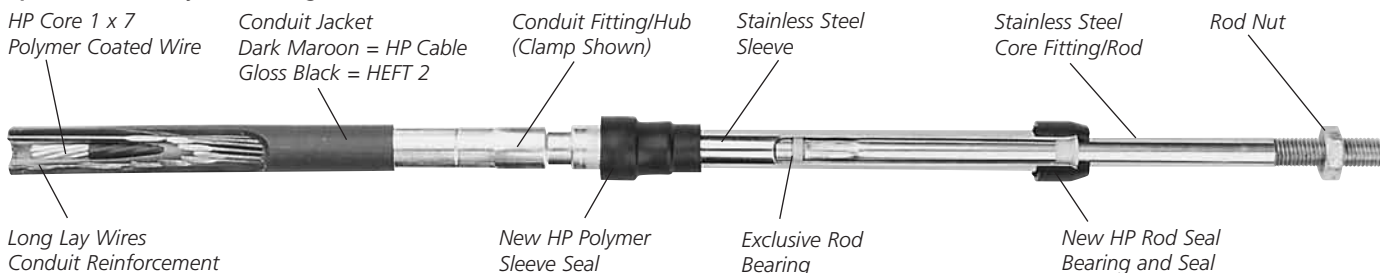
Seals & Boots

High Performance seals are now standard! Durable custom compounded seals are used to prevent moisture and contaminants from entering the cable. The new High Performance seals outperform all previous seals and are now standard on all cables. The HP seals operate in all temperature extremes, while offering improved performance and efficiency. Tension cables use a durable tear-resistant silicone boot, designed for high cycle use and high temperature.

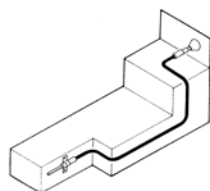
Rod & Sleeve Bearing

An exclusive polymer rod and sleeve bearing is used to improve efficiency, sealing and cable life by preventing metal-to-metal contact between the rod and sleeve. They also accurately align the rod with the seal to further ensure superior sealing and a longer cable life.

Specifications subject to change without notice



Specifications



Routing/Measuring

Measure the cable along the path it will take from the points where the cable hubs will be anchored. Follow the actual cable path as closely as possible, allowing for the largest practical bend radii.

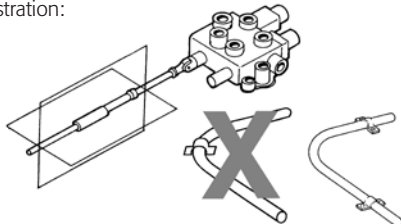
Optimum Life Bend Radii

Series	Operating Life Minimum
3	3 inches*
4	5 inches
6	7 inches
8	10 inches

* HP Core: Solid Core has 6" Bend Radii

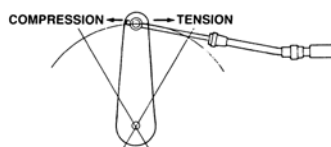
Installation Notes: Control & Work End

Where a cable is to be connected to objects requiring linear movement only (e.g. spool valves), maximum life and efficiency is achieved by accurately aligning, in both planes, the cable hubs and the controlled object. See illustration:



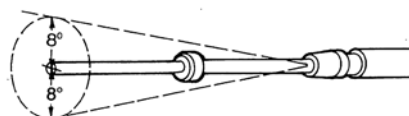
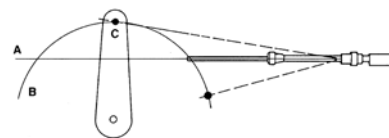
It is important to securely anchor the cable hubs. Looseness of the mounting bracket will be perceived as lost motion "sponginess" and will inhibit detent feel.

Also, clamping in the bend area may reduce bend radii under operating loads. Clamping at tangents to the bend is preferred.



For highest efficiency and long life in lever actuating operations, install the cable so that the highest loads are operated with tension (pulling), rather than compression (pushing).

Where the cable is connected to a lever, the cable will be mounted so that it lies on a plane (A) midway on the arc (B) described by the movement of the connection point on the lever (C).



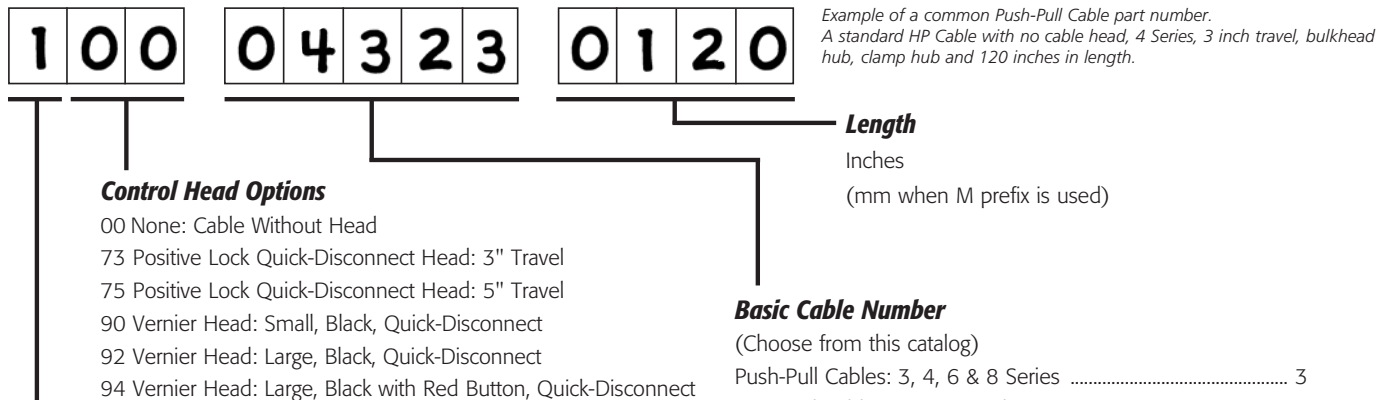
All Felsted push-pull cables with rod and sleeve type end fittings have a built-in swivel to handle deflections up to 8°.

Catalog Index

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Cable Types/Options/Part Number System How to Order HP Cables: Part Number System

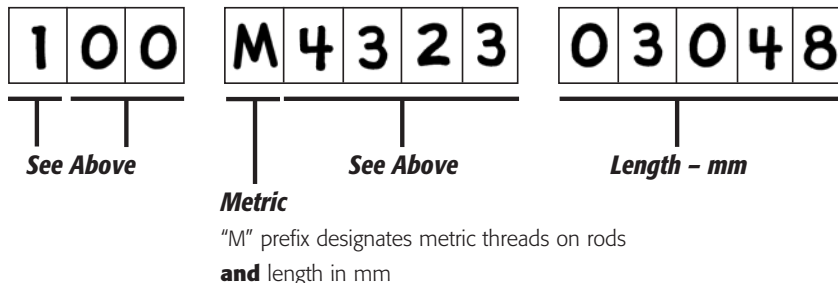
Standard/Imperial



Cable Types

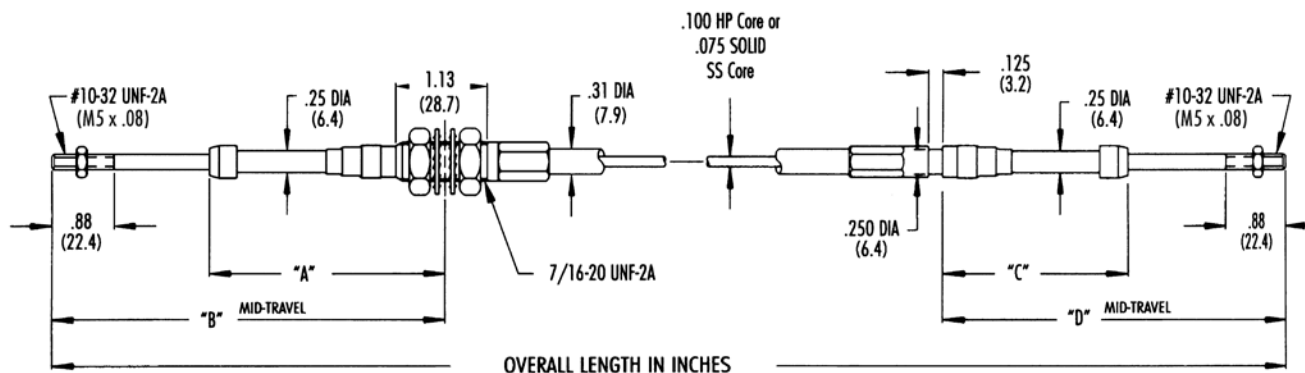
- 0 Solid Core (3 Series)
- 1 HP Cable Standard (Temperature –65 to +225°F/–54 to +107°C)
- 2 All Stainless Steel Fittings
- 3 HEFT 2 (High Temperature –65 to +300°F/–54 to +149°C)
- 4 HEFT 2 (High Temperature –65 to +300°F/–54 to +149°C)
With all Stainless Steel Fittings

Metric

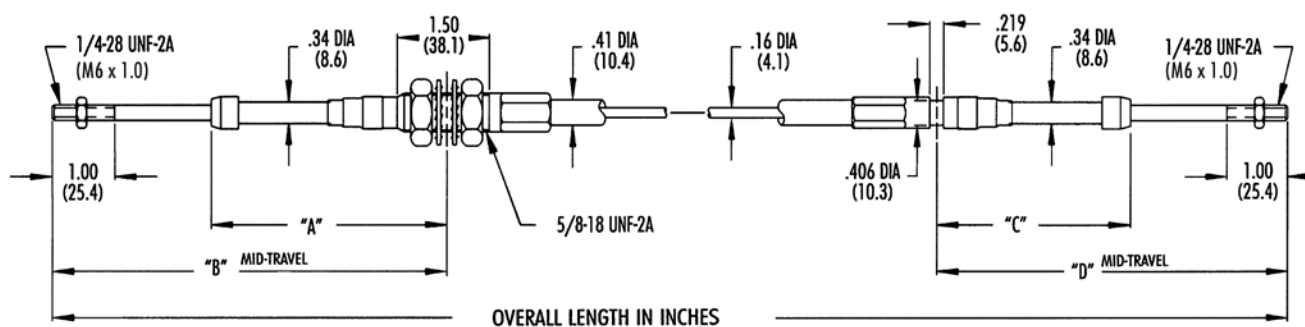


Can be custom assembled by local Orscheln® F.A.S.T.® distributors

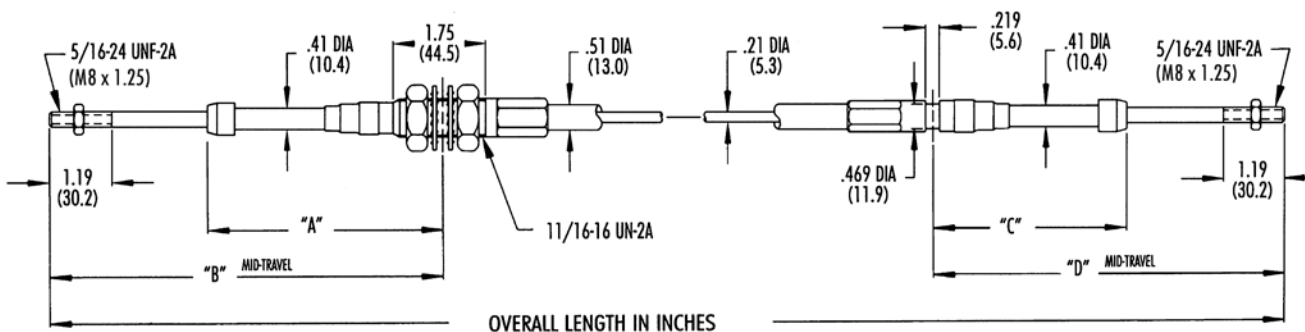
3 SERIES



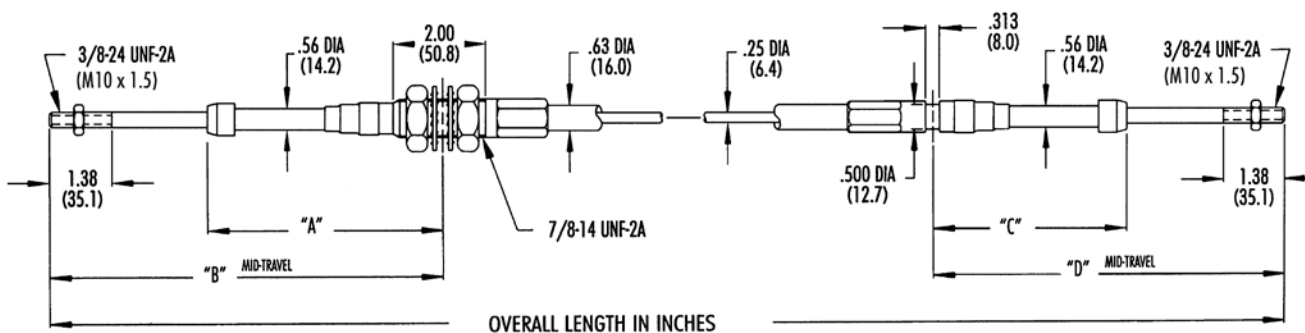
4 SERIES



6 SERIES



8 SERIES



- Temperature Range:
–65 to +225°F / –54 to +107°C Std.
–65 to +300°F / –54 to +149°C HEFT 2
- Low Backlash
- High Efficiency
- Conduit Color:
Dark Maroon – HP Cable Std.
Satin Black – HEFT 2

3 SERIES

**HP Core
or Solid Core
10-32 Thread
3" Bend Radii (HP)
6" Bend Radii
(Solid Core)**

Specifications

Travel Inch/(mm)	Bulkhead End		Clamp End		Operating Loads	
	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	3.00 (76.2)	4.44 (112.8)	2.31 (58.7)	3.75 (95.3)	80 (356)	120 (534)
2.0 (50.8)	4.00 (101.6)	5.94 (150.9)	3.31 (84.1)	5.25 (133.4)	80 (356)	120 (534)
3.0 (76.2)	5.00 (127.0)	7.44 (189.0)	4.31 (109.5)	6.75 (171.5)	70 (311)	120 (534)
4.0 (101.6)	6.00 (152.4)	8.94 (227.1)	5.31 (134.9)	8.25 (209.6)	60 (267)	120 (534)
5.0 (127.0)	7.00 (177.8)	10.44 (265.2)	6.31 (160.3)	9.75 (247.7)	45 (200)	120 (534)
6.0 (152.4)	8.00 (203.2)	11.94 (303.3)	7.31 (185.6)	11.25 (285.7)	35 (155.8)	120 (534)
7.0 (177.8)	9.00 (228.6)	13.44 (341.4)	8.31 (211.0)	12.75 (323.8)	25 (111.3)	120 (534)

4 SERIES

**HP Core
1/4-28 Thread
5" Bend Radii**

Specifications

Travel Inch/(mm)	Bulkhead End		Clamp End		Operating Loads	
	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	3.13 (79.5)	4.69 (119.1)	2.50 (63.5)	4.06 (103.1)	150 (667)	230 (1023)
2.0 (50.8)	4.13 (104.9)	6.19 (157.2)	3.50 (88.9)	5.56 (141.2)	150 (667)	230 (1023)
3.0 (76.2)	5.13 (130.3)	7.69 (195.3)	4.50 (114.3)	7.06 (179.3)	125 (556)	230 (1023)
4.0 (101.6)	6.13 (155.7)	9.19 (233.4)	5.50 (139.7)	8.56 (217.4)	100 (445)	230 (1023)
5.0 (127.0)	7.13 (181.1)	10.69 (271.5)	6.50 (165.1)	10.06 (255.5)	75 (334)	230 (1023)
6.0 (152.4)	8.13 (206.5)	12.19 (309.6)	7.50 (190.5)	11.56 (293.6)	55 (244.8)	230 (1023)
7.0 (177.8)	9.13 (231.9)	13.6 (347.7)	8.50 (215.9)	13.06 (331.7)	45 (200.3)	230 (1023)

6 SERIES

**HP Core
5/16-24 Thread
7" Bend Radii**

Specifications

Travel Inch/(mm)	Bulkhead End		Clamp End		Operating Loads	
	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	3.25 (82.6)	5.00 (127.0)	2.56 (65.0)	4.31 (109.5)	250 (1112)	400 (1779)
2.0 (50.8)	4.25 (108.0)	6.50 (165.1)	3.56 (90.4)	5.81 (147.6)	250 (1112)	400 (1779)
3.0 (76.2)	5.25 (133.4)	8.00 (203.2)	4.56 (115.8)	7.31 (185.7)	210 (934)	400 (1779)
4.0 (101.6)	6.25 (158.8)	9.50 (241.3)	5.56 (141.2)	8.81 (223.8)	170 (756)	400 (1779)
5.0 (127.0)	7.25 (184.2)	11.00 (279.4)	6.56 (166.6)	10.31 (261.9)	130 (578)	400 (1779)
6.0 (152.4)	8.25 (209.6)	12.50 (317.5)	7.56 (192.0)	11.81 (299.9)	90 (400.5)	400 (1779)
7.0 (177.8)	9.25 (235)	14.00 (355.6)	8.56 (217.4)	13.31 (338.0)	60 (267)	400 (1779)

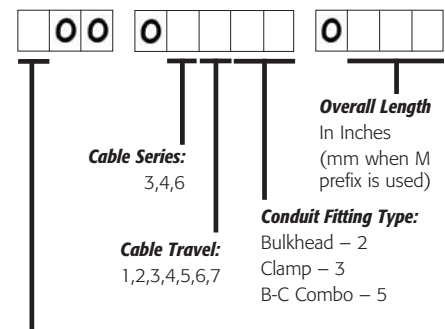
8 SERIES

**Armor Core
3/8-24 Thread
10" Bend Radii**

Specifications

Travel Inch/(mm)	Bulkhead End		Clamp End		Operating Loads	
	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	3.69 (93.7)	5.56 (141.2)	3.19 (81.0)	5.06 (128.5)	700 (3114)	1000 (4448)
2.0 (50.8)	4.69 (119.1)	7.06 (179.3)	4.19 (106.4)	6.56 (166.6)	700 (3114)	1000 (4448)
3.0 (76.2)	5.69 (144.5)	8.56 (217.4)	5.19 (131.8)	8.06 (204.7)	600 (2669)	1000 (4448)
4.0 (101.6)	6.69 (169.9)	10.06 (255.5)	6.19 (157.2)	9.56 (242.8)	500 (2224)	1000 (4448)
5.0 (127.0)	7.69 (195.3)	11.56 (293.6)	7.19 (182.6)	11.06 (280.9)	400 (1779)	1000 (4448)
6.0 (152.4)	8.69 (220.7)	13.06 (331.7)	8.19 (208.0)	12.56 (319.0)	275 (1223.8)	1000 (4448)
7.0 (177.8)	9.69 (246.1)	14.56 (369.8)	9.19 (233.4)	14.06 (357.1)	150 (667.5)	1000 (4448)

Building a Part Number

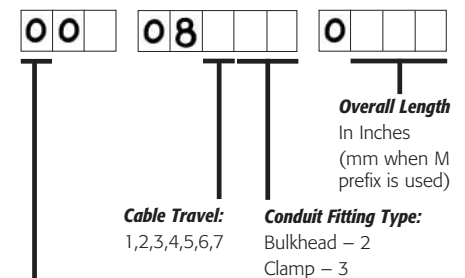


Cable Type:

- 0 Solid Core (3 Series Only)
- 1 High Performance (Standard)
- 2 All Stainless Steel Fittings
- 3 HEFT 2 (High Performance & High Temperature)
- 4 HEFT 2 and All Stainless Steel Fittings

M Metric – see pg. 2

8 Series Options Building a Part Number



Cable Type:

- 1 Stainless Steel Rods & HP Rod Seal (Standard)
- 2 All Stainless Steel Fittings, Hardware & HP Rod Seal
- 4 All Stainless Steel Core & Conduit Strand
Stainless Steel Fittings, Hardware & HP Rod Seal
(Premium)

HEFT 2 Not available in 8 Series

M Metric – see pg. 2

Can be custom assembled by local Orscheln® F.A.S.T.® distributors

3 SERIES LIGHT DUTY

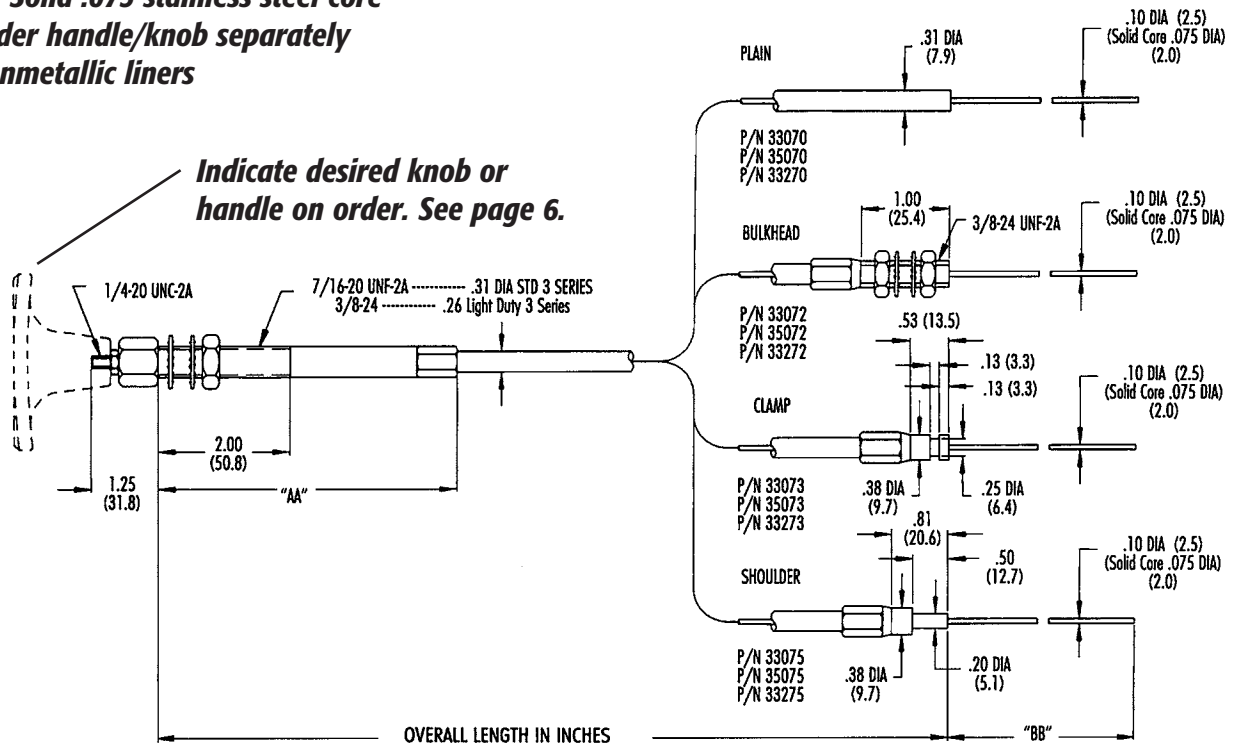
Choice of core type:

HP Core – Polymer coated 1 x 7

Solid .075 stainless steel core

Order handle/knob separately

Nonmetallic liners



Specifications

Travel Inch/(mm)	DIM "AA" Inch/(mm)	DIM "BB" Inch/(mm)
3.0 (76.2)	4.50 (114.3)	5.0 (127.0)
5.0 (127.0)	6.50 (165.1)	8.0 (203.2)



Cable Only

Building a Part Number

0	0	3		7		0		
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Cable Travel:
3,5

Overall Length
In Inches

Conduit Size:
0 = .31 dia. std.
2 = .26 dia.
(Available with
cable type 0,
solid core only)

Conduit Fitting Type:
Plain - 0
Bulkhead - 2
Clamp - 3
Shoulder - 5

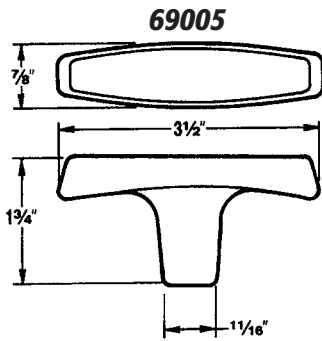
Cable Type:

0 Solid Core (3 Series Only) .075 dia.
1 High Performance (Standard)
3 HEFT 2 (High Performance & High Temperature)

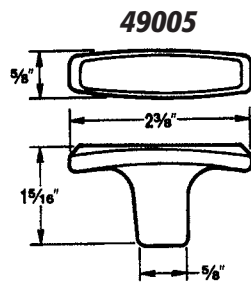
T-Handles

Tough Nylon Material

T-HANDLES



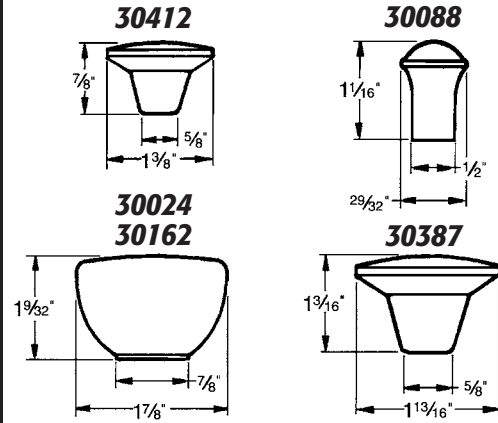
Base Part #	Type	Color
49005-1	A	Black
49005-2	B	Red
69005-1	C	Black
69005-2	D	Red



Knobs

Rugged Phenolic Material

KNOB



Base Part #	Type	Color	Legend I.D.	Thread Size
30024-0	E	Black	01	1
30088-1	F	Black	01	1
30088-2	G	Red	01	1
30162-0	H	Red	06	1
30387-1	I	Black	01	1
30387-2	J	Red	01	1
30412-0	K	Black	01	1

T-Handle/Knob Only Building a Part Number

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Base Part Number

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Thread Size

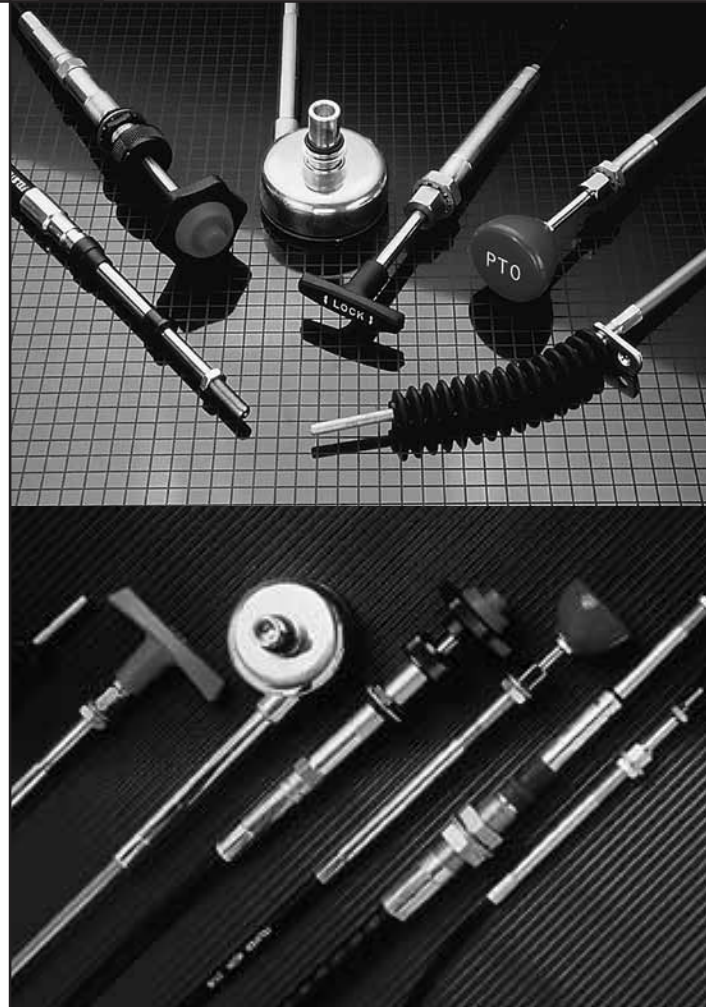
- 1 1/4-20 UNC-2B
- 2 5/16-24 UNF-2B
- 3 3/8-24 UNF-2B
- 4 .358 hole with set screw

Legend Identification

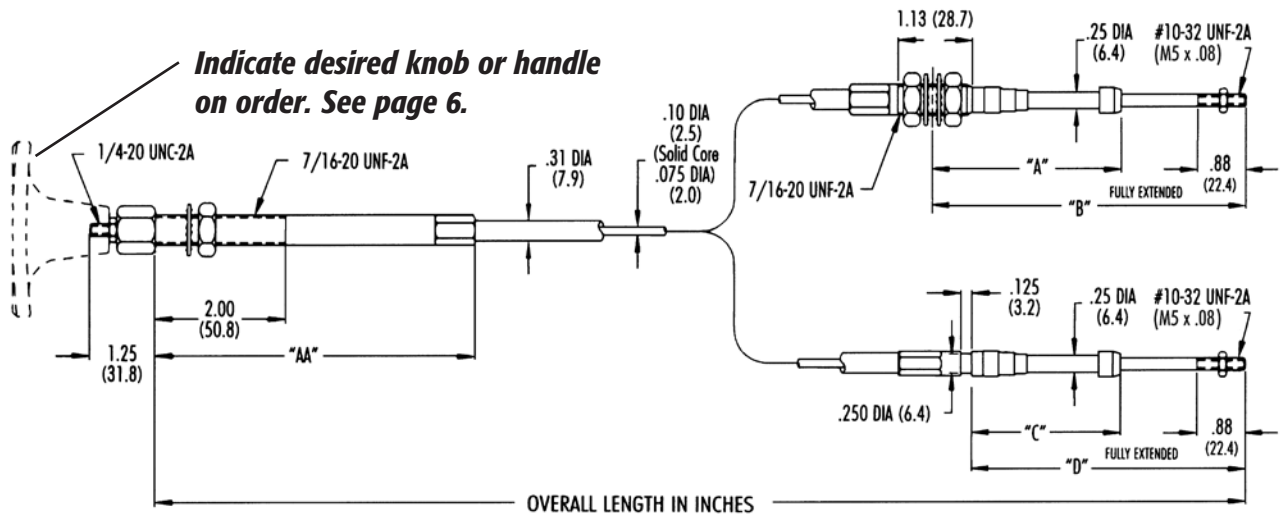
01 Plain	11 Cold Start	19 Overdrive
02 Stop	12 Pump	20 Aux. Release
03 Shut-Off	13 Chute	(Lock)
04 Throttle	14 Fire	21 Rear Door
05 Choke	15 Start	(Lock)
06 PTO	16 Hood	22 Throttle
07 Emergency Stop	17 Emergency Fuel	(Lock)
08 Engine Stop	Shut-Off	23 Hatch
09 (Lock)		(Lock)
10 Disconnect		

Note: 01 Plain T-handle is a stock item. Other T-handles may have minimum order quantities and special order long lead time.

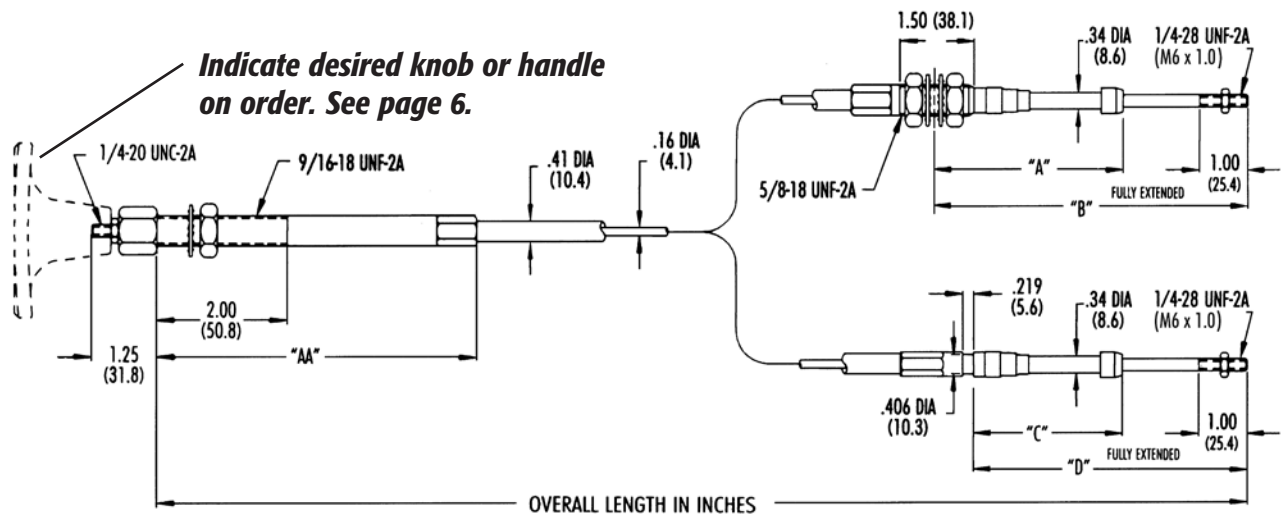
Note: To order Positive Lock Spare Handle 49005-1094 w/set screw use part #30073.



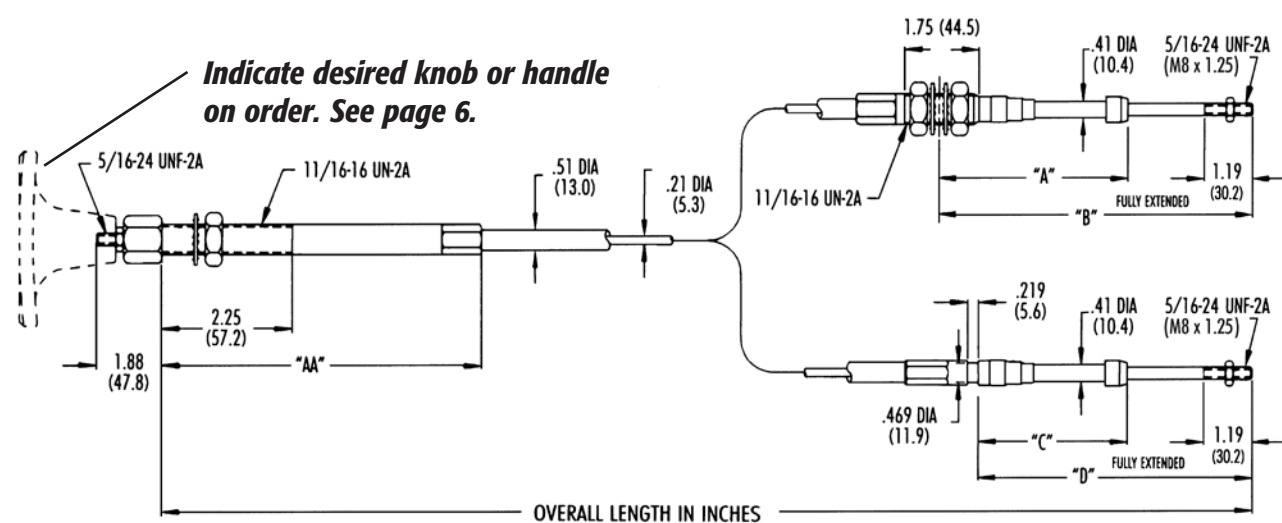
HEAVY DUTY 3 SERIES



HEAVY DUTY 4 SERIES



HEAVY DUTY 6 SERIES



- Heavy Duty: 3, 4 & 6 Series threaded end rods
- Applications: throttle, choke, engine stop, fuel shut-off, latches
- Temperature Range:
 - 65 to +225°F / –54 to +107°C Std.
 - 65 to +300°F / –54 to +149°C HEFT 2
- Wide variety of Handles & Knobs

HEAVY DUTY 3 SERIES

Choice of Core Type

HP Core – polymer coated 1 x 7

Solid .075 stainless steel core

10-32 Threaded rod (output end)

Specifications

Travel	DIM "AA"	Bulkhead End		Clamp End		Operating Loads	
		DIM "A"	DIM "B"	DIM "C"	DIM "D"	Push	Pull
Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Lbs./(N)	Lbs./(N)
1.0 (25.4)	4.50 (114.3)	3.00 (76.2)	4.94 (125.5)	2.31 (58.7)	4.25 (108.0)	60 (267)	60 (267)
2.0 (50.8)	4.50 (114.3)	4.00 (101.6)	6.94 (176.3)	3.31 (84.1)	6.25 (158.8)	60 (267)	60 (267)
3.0 (76.2)	4.50 (114.3)	5.00 (127.0)	8.94 (227.1)	4.31 (109.5)	8.25 (209.6)	60 (267)	60 (267)
4.0 (101.6)	6.50 (165.1)	6.00 (152.4)	10.94 (277.9)	5.31 (134.9)	10.25 (260.4)	60 (267)	60 (267)
5.0 (127.0)	6.50 (165.1)	7.00 (177.8)	12.94 (328.7)	6.31 (160.3)	12.25 (311.2)	45 (200)	60 (267)

HEAVY DUTY 4 SERIES

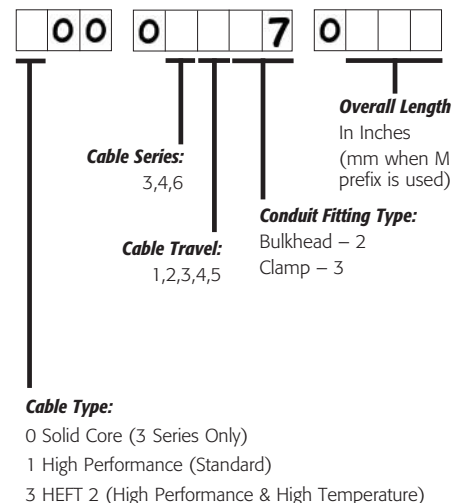
HP Core

1/4" – 28 Threaded rod (output end)

Specifications

Travel	DIM "AA"	Bulkhead End		Clamp End		Operating Loads	
		DIM "A"	DIM "B"	DIM "C"	DIM "D"	Push	Pull
Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Lbs./(N)	Lbs./(N)
1.0 (25.4)	5.19 (131.8)	3.13 (79.5)	5.19 (131.8)	2.50 (63.5)	4.56 (115.8)	120 (534)	120 (534)
2.0 (50.8)	5.19 (131.8)	4.13 (104.9)	7.19 (182.6)	3.50 (88.9)	6.56 (166.6)	120 (534)	120 (534)
3.0 (76.2)	5.19 (131.8)	5.13 (130.3)	9.19 (233.4)	4.50 (114.3)	8.56 (217.4)	120 (534)	120 (534)
4.0 (101.6)	7.19 (182.6)	6.13 (155.7)	11.19 (284.2)	5.50 (139.7)	10.56 (268.2)	100 (445)	120 (534)
5.0 (127.0)	7.19 (182.6)	7.13 (181.1)	13.19 (335.0)	6.50 (165.1)	12.56 (319.0)	75 (334)	120 (534)

Building a Part Number



Cable Type:

0 Solid Core (3 Series Only)

1 High Performance (Standard)

3 HEFT 2 (High Performance & High Temperature)



Metric – see pg. 2

HEAVY DUTY 6 SERIES

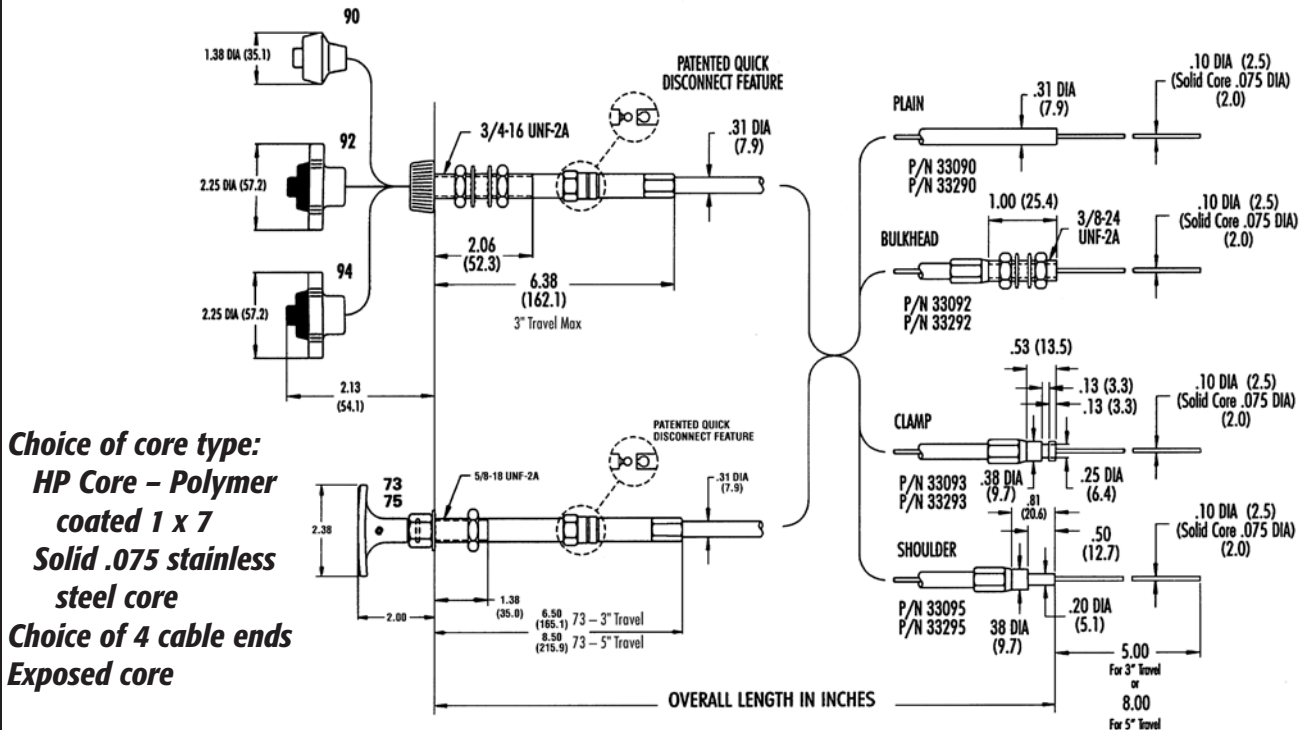
HP Core

5/16" – 28 Threaded rod (output end)

Specifications

Travel	DIM "AA"	Bulkhead End		Clamp End		Operating Loads	
		DIM "A"	DIM "B"	DIM "C"	DIM "D"	Push	Pull
Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Inch/(mm)	Lbs./(N)	Lbs./(N)
1.0 (25.4)	5.19 (131.8)	3.25 (82.6)	5.50 (139.7)	2.56 (65.0)	4.81 (122.2)	225 (1001)	225 (1001)
2.0 (50.8)	5.19 (131.8)	4.25 (108.0)	7.50 (190.5)	3.56 (90.4)	6.81 (173.0)	225 (1001)	225 (1001)
3.0 (76.2)	5.19 (131.8)	5.25 (133.4)	9.50 (241.3)	4.56 (115.8)	8.81 (223.8)	210 (934)	225 (1001)
4.0 (101.6)	7.19 (182.6)	6.25 (158.8)	11.50 (292.1)	5.56 (141.2)	10.81 (274.6)	170 (756)	225 (1001)
5.0 (127.0)	7.19 (182.6)	7.25 (184.2)	13.50 (342.9)	6.56 (166.6)	12.81 (325.4)	130 (578)	225 (1001)

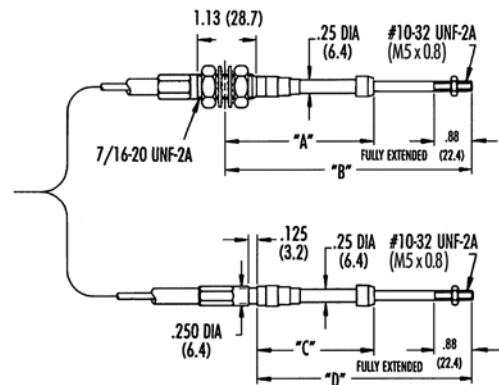
LIGHT DUTY 3 SERIES



HEAVY DUTY 3 SERIES

Choice of core type:
 HP Core – Polymer coated 1 x 7
 Solid .075 stainless steel core
 10-32 Threaded rod (output end)

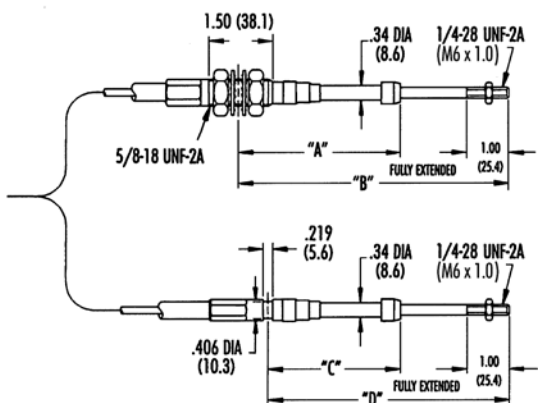
**HEAD OPTIONS
SEE ABOVE**



4 SERIES

HP Core
 1/4"-28 Threaded rod
 (output end)

**HEAD OPTIONS
SEE ABOVE**



- Light Duty: Exposed Solid Core or 1 x 7 HP Core
HP Core: Choose for best flexibility, lower backlash and higher efficiency. Polymer coated 1 x 7 wire rope
Solid Core: .075 solid stainless steel core
- Heavy Duty: 3 & 4 Series threaded end rods

- Temperature Range:
–65 to +225°F / –54 to +107°C Std.
–65 to +300°F / –54 to +149°C HEFT 2
- Applications: Engine RPM, or where coarse or fine adjustments are needed

Quick Disconnect Cable Heads

#73 Positive Lock Head: 3" Travel

#75 Positive Lock Head: 5" Travel

#90 Vernier: Small Knob

#92 Vernier: Black Center Button

#94 Vernier: Red Center Button

To Order

Vernier and Positive Lock cable control heads may be ordered as a complete assembly (head and cable attached) or separately. Order the desired control head using the two-digit number 90, 92, 94, 73 or 75. Order the cable using the five-digit number from "Building a Part Number." To order a complete assembly, combine the control head number with the desired cable number. Example: if you desire control head #94 and cable #33092, then combine to make the assembly part number X94-33092-length.

Load Rating: Maximum 20 lbs. is recommended.

Building a Part Number

Overall Length
In Inches
(mm when M prefix is used)

Conduit Fitting Type:
Plain - 0
Bulkhead - 2
Clamp - 3
Shoulder - 5

Head Type:
00 None: Cable only
90 Vernier: Black Button – Black Knob
92 Vernier: Black Button – Black Knob
94 Vernier: Red Button – Black Knob
73 Positive Lock: 3" Travel
75 Positive Lock: 5" Travel

Cable Type:
0 Solid Core (3 Series Only)
1 High Performance (Standard)
3 HEFT 2 (High Performance & High Temperature)

Cable Travel:
3 = #73 Head & All Vernier Heads
5 = #75 Head ONLY

Cable Size:
0 = .31 dia. std.
2 = .26 dia.
(Available with Cable Type 0, Solid Core only)

Specifications				
Travel	Bulkhead End		Clamp End	
Inch/(mm)	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)
1.0 (25.4)	3.00 (76.2)	4.94 (125.5)	2.31 (58.7)	4.25 (108.0)
2.0 (50.8)	4.00 (101.6)	6.94 (176.3)	3.31 (84.1)	6.25 (158.8)
3.0 (76.2)	5.00 (127.0)	8.94 (227.1)	4.31 (109.5)	8.25 (209.6)
4.0 (101.6)	6.00 (152.4)	10.94 (277.9)	5.31 (134.9)	10.25 (260.4)
5.0 (127.0)	7.00 (177.8)	12.94 (328.7)	6.31 (160.3)	12.25 (311.2)

☐ Using #75 Head

Load Rating: Maximum 20 lbs. is recommended.

Specifications				
Travel	Bulkhead End		Clamp End	
Inch/(mm)	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)
1.0 (25.4)	3.13 (79.5)	5.19 (131.8)	2.50 (63.5)	4.56 (115.8)
2.0 (50.8)	4.13 (104.9)	7.19 (182.6)	3.50 (88.9)	6.56 (166.6)
3.0 (76.2)	5.13 (130.3)	9.19 (233.4)	4.50 (114.3)	8.56 (217.4)
4.0 (101.6)	6.13 (155.7)	11.19 (284.2)	5.50 (139.7)	10.56 (268.2)
5.0 (127.0)	7.13 (181.1)	13.19 (335.0)	6.50 (165.1)	12.56 (319.0)

☐ Using #75 Head

Load Rating: Maximum 20 lbs. is recommended.

Building a Part Number

Overall Length
In Inches
(mm when M prefix is used)

Conduit Fitting Type:
Bulkhead - 2
Clamp - 3
B-C Combo - 5

Head Type:
00 None: Cable only
90 Vernier: Black Button – Black Knob
92 Vernier: Black Button – Black Knob
94 Vernier: Red Button – Black Knob
73 Positive Lock: 3" Travel
75 Positive Lock: 5" Travel

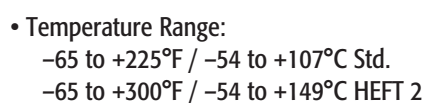
Cable Type:
0 Solid Core (3 Series Only)
1 High Performance (Standard)
3 HEFT 2 (High Performance & High Temperature)

Cable Series:
3, 4

Cable Travel: 1, 2, 3, 4, 5

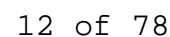
Metric – see pg. 2

Can be custom assembled by local Orscheln® F.A.S.T.® distributors



6 SERIES				
Travel	Bulkhead End	Clamp End	Operating Loads	
Inch/(mm)	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	Push Lbs./ (N)	Pull Lbs./ (N)
1.0 (25.4)	5.23 (130.3)	4.44 (112.8)	0	400 (1779)
2.0 (50.8)	6.63 (168.4)	5.94 (150.9)	0	400 (1779)
3.0 (76.2)	8.13 (206.5)	7.44 (189.0)	0	400 (1779)
4.0 (101.6)	9.63 (244.8)	8.94 (227.1)	0	400 (1779)
5.0 (127.0)	11.13 (282.7)	10.44 (265.2)	0	400 (1779)

Building a Part Number

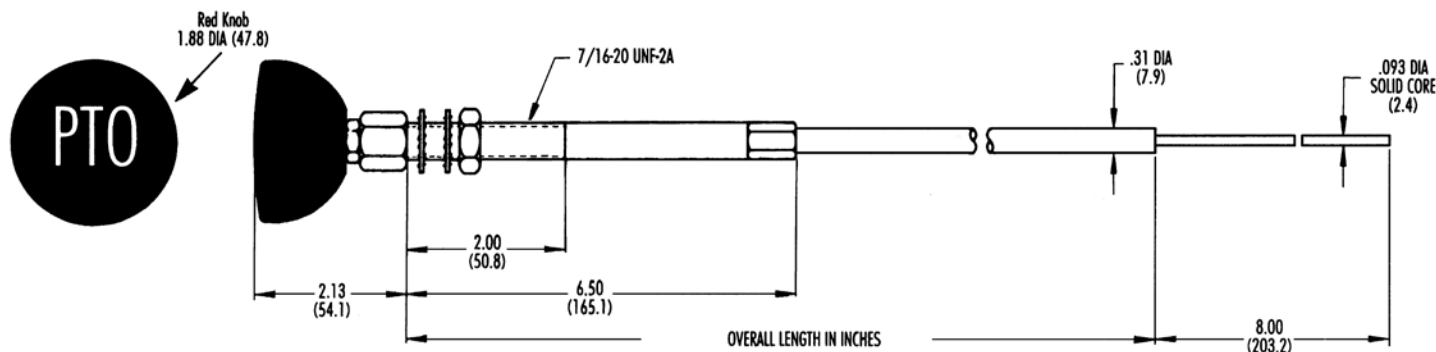


PTO Cables

- Power take off operation
- .093 Solid Stainless Steel Core

- Full 5" travel
- 6" Bend radius

Can be custom assembled by local Orscheln® F.A.S.T.® distributors



Power Take Off Cables

Red knob – standard

Temperature Range:

–65 to +225°F / –54 to +107°C Std.

Building a Part Number

000 35000 0

Overall Length

In Inches

(mm when M prefix is used)

RVO Cables

- Remote valve control operation (Orscheln controls ONLY).
- HP Cable construction – same as 4 Series Push-Pull on pages 3–4.

Can be custom assembled by local Orscheln® F.A.S.T.® distributors

Building a Part Number

00 456 0

Cable Type:

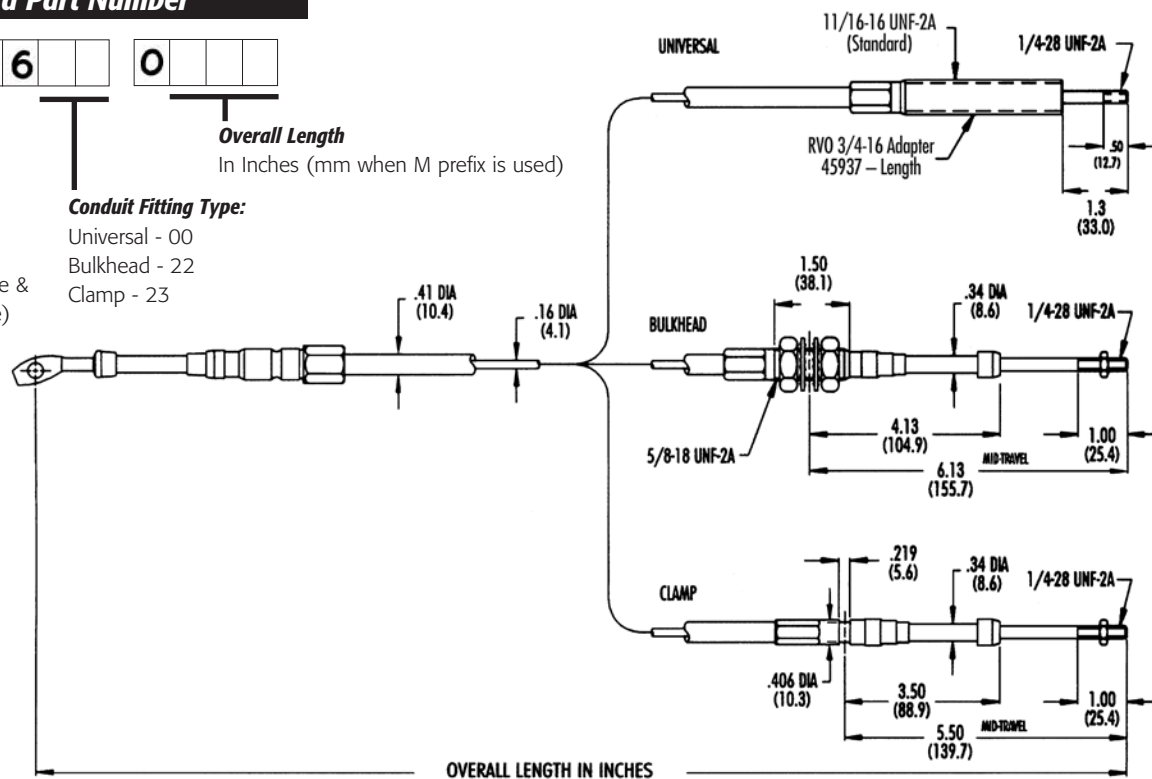
- 1 High Performance (Standard)
- 3 HEFT 2 (High Performance & High Temperature)

Conduit Fitting Type:

- Universal - 00
- Bulkhead - 22
- Clamp - 23

Overall Length
In Inches (mm when M prefix is used)

Valve Connection Kit End

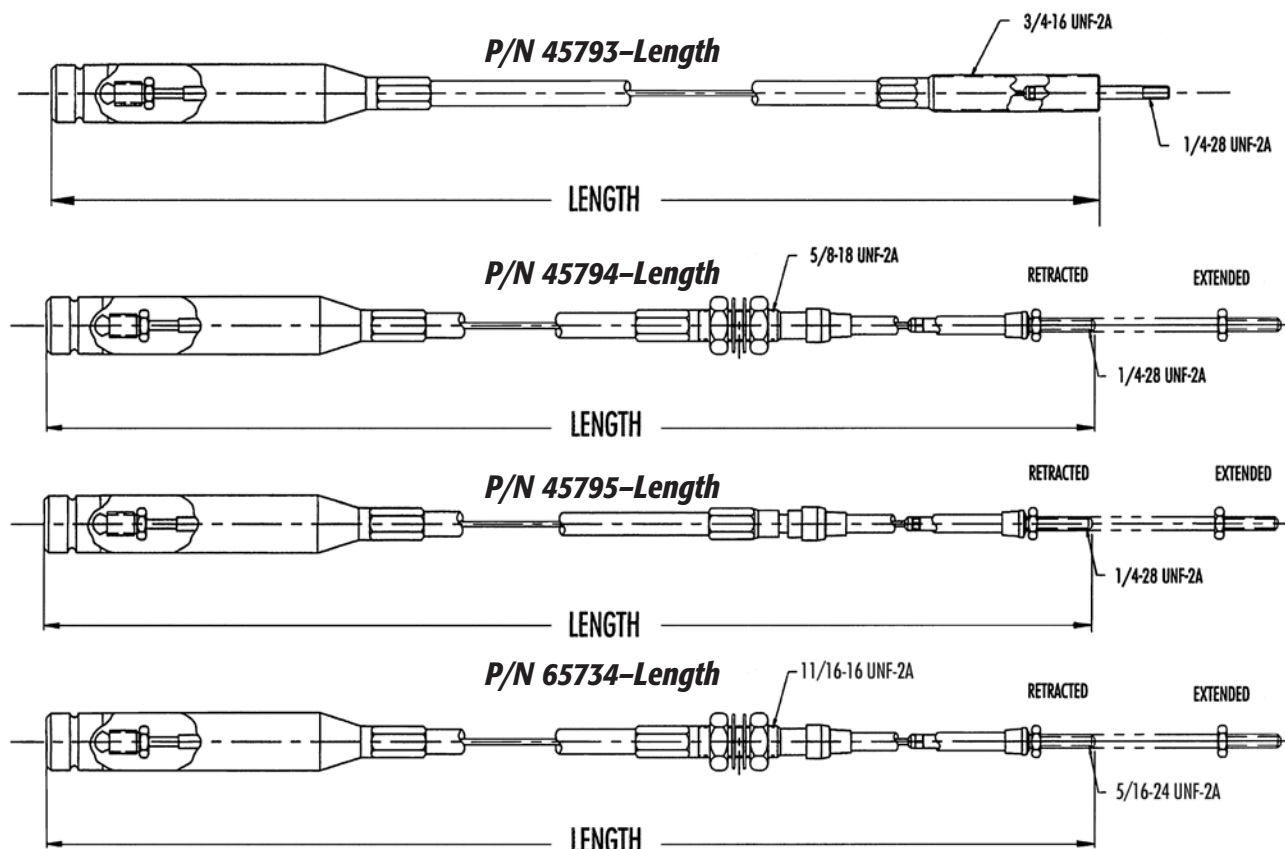


Connects to Orscheln Remote Valve Controls
55700
55709

RVC Cables

- Remote Valve Control Cables
- Fits Competitor RVC Controls

Can be custom assembled by local Orscheln® F.A.S.T.® distributors



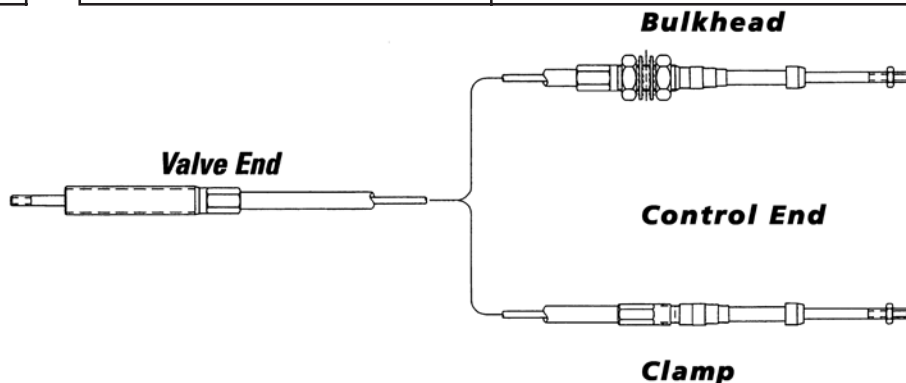
Special Valve Control Cables

- HD lever applications
- Remote valve dump body control use • HP cable construction

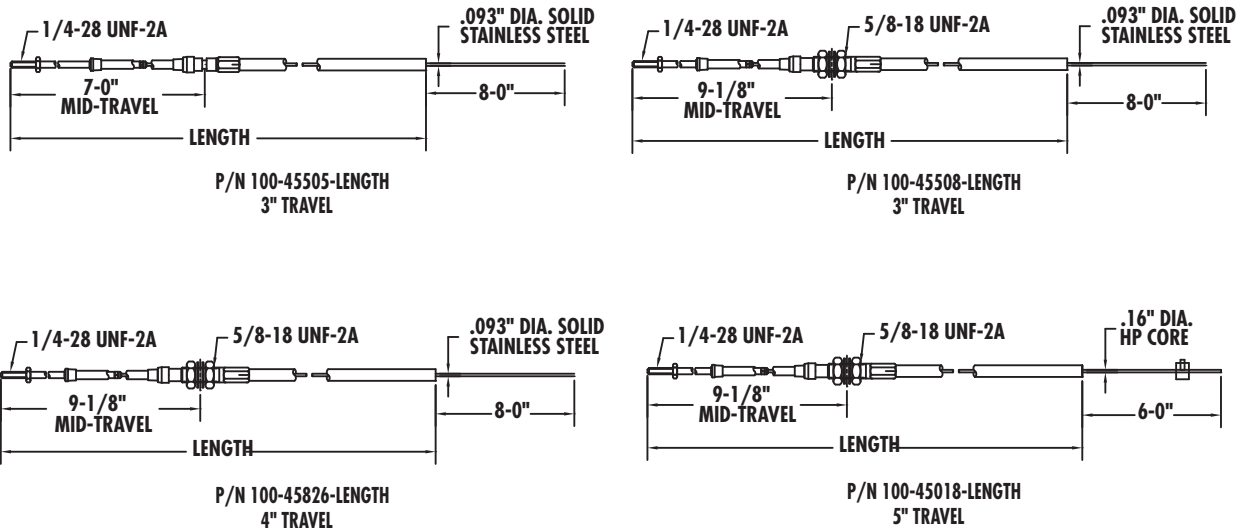
Can be custom assembled by local Orscheln® F.A.S.T.® distributors

Base Part Number			OAL inches		
1	0	0	4	5	6
1	0	0	4	5	7
1	0	0	4	5	9
1	0	0	4	7	3
1	0	0	4	7	9
1	0	0	4	9	6
1	0	0	4	9	1

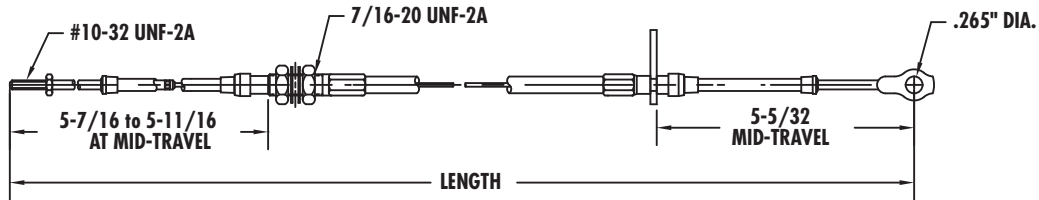
Valve End Connection	Control End Connection
11/16" –16 thread connects to valve connection kit	5/8"-18 bulkhead hub connects to an HD Lever
11/16" –16 thread connects to valve connection kit	Clamp hub connects to a 55781-2 dump body control shifter
11/16" –16 thread connects to valve connection kit	Clamp hub connects to a 3" mounting dump body control shifter
3/4"-16 thread connects to valve connection kit	Clamp hub connects to a 55781-2 dump body control shifter
3/4"-16 thread connects to valve connection kit	5/8"-18 bulkhead hub connects to an HD Lever



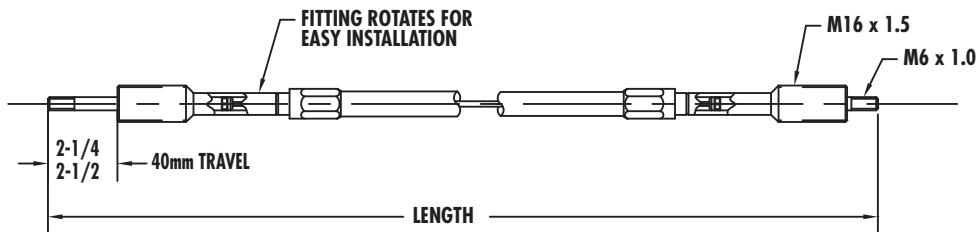
MIXER CABLES



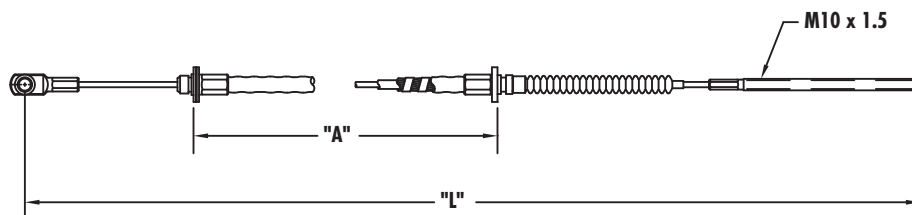
HP RACE SHIFT CABLE – P/N 36101-LENGTH



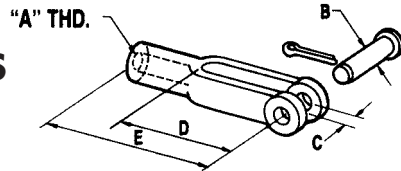
WALVOIL[®] REPLACEMENT CABLE – P/N 46041-LENGTH



GM[®] REPLACEMENT CLUTCH CABLE – P/N 65604



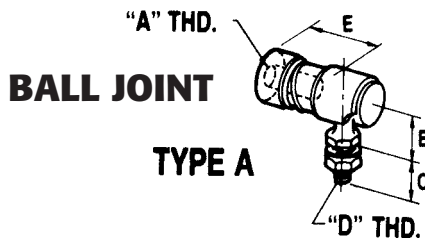
CLEVISES



Part #	A	B	C	D	E
3 SERIES					
39003-1 **	10-32 UNF-2B	3/16" (4.8mm)	7/32" (5.6mm)	1" (25.4mm)	1-9/16" (39.7mm)
49003-2	10-32 UNF-2B	1/4" (6.4mm)	9/32" (7.1mm)	1-1/4" (31.8mm)	2" (50.8mm)
69003-2 *	10-32 UNF-2B	5/16" (7.9mm)	11/32" (8.7mm)	1-7/16" (36.5mm)	2-1/4" (57.2mm)
4 SERIES					
49003-1	1/4-28 UNF-2B	1/4" (6.4mm)	9/32" (7.1mm)	1-1/4" (31.8mm)	2" (50.8mm)
49044-1 *	1/4-28 UNF-2B	1/2" (12.7mm)	9/16" (14.3mm)	1-7/8" (47.6mm)	3" (76.2mm)
69003-3	1/4-28 UNF-2B	5/16" (7.9mm)	11/32" (8.7mm)	1-7/16" (36.5mm)	2-1/4" (57.2mm)
6 SERIES					
49003-3	5/16-24 UNF-2B	1/4" (6.4mm)	9/32" (7.1mm)	1-1/4" (31.8mm)	2" (50.8mm)
49044-2	5/16-24 UNF-2B	1/2" (12.7mm)	9/16" (14.3mm)	1-7/8" (47.6mm)	3" (76.2mm)
69003-1	5/16-24 UNF-2B	5/16" (7.9mm)	11/32" (8.7mm)	1-7/16" (36.5mm)	2-1/4" (57.2mm)
69034	5/16-24 UNF-2B	7/16" (11.1mm)	1/2" (12.7mm)	1-7/8" (47.6mm)	2-7/8" (73.1mm)
89003-2	5/16-24 UNF-2B	3/8" (9.5mm)	7/16" (11.1mm)	1-5/8" (41.3mm)	2-1/2" (63.5mm)
8 SERIES					
89003-1 *	3/8-24 UNF-2B	3/8" (9.5mm)	7/16" (11.1mm)	1-5/8" (41.3mm)	2-1/2" (63.5mm)
*SPECIAL SERIES					
49044-3	3/8-24 UNF-2B	1/2" (12.7mm)	9/16" (14.3mm)	1-7/8" (47.6mm)	3" (76.2mm)
49044-4 *	1/2-20 UNF-2B	1/2" (12.7mm)	9/16" (14.3mm)	1-7/8" (47.6mm)	3" (76.2mm)
69034-1	3/8-24 UNF-2B	7/16" (11.1mm)	1/2" (12.7mm)	1-7/8" (47.6mm)	2-7/8" (73.1mm)

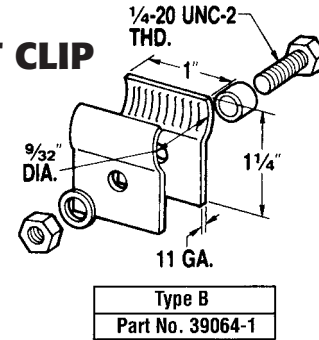
* Consult factory for leadtime and availability.

** Note: The 39003-1 clevis is made of polymer and is not identical to the illustration shown above.

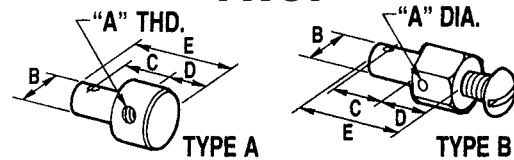


Part #	Type	A	B	C	D	E
3 SERIES						
39006	A	10-32 UNF-2B	15/32" (11.9mm)	9/16" (14.3mm)	1/4-28 UNF-2A	31/32" (24.6mm)
4 SERIES						
49006	A	1/4-28 UNF-2B	15/32" (11.9mm)	9/16" (14.3mm)	1/4-28 UNF-2A	31/32" (24.6mm)
49007	A	1/4-28 UNF-2B	15/32" (11.9mm)	7/8" (22.2mm)	5/16-24 UNF-2A	31/32" (24.6mm)
6 SERIES						
69007	A	5/16-24 UNF-2B	17/32" (13.5mm)	11/16" (17.5mm)	5/16-24 UNF-2A	1-1/8" (28.5mm)

CONDUIT CLIP

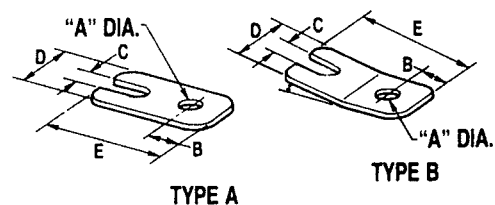


PIVOT



Part #	Type	A	B	C	D	E
3 SERIES						
39011-1	B	7/64" (2.8mm)	1/4" (6.4mm)	5/32" (4.0mm)	5/16" (7.9mm)	9/16" (14.3mm)
39011-2	B	7/64" (2.8mm)	1/4" (6.4mm)	19/64" (7.5mm)	5/16" (7.9mm)	11/16" (17.5mm)
39050-2 *	B	7/64" (2.8mm)	5/16" (7.9mm)	19/64" (7.5mm)	5/16" (7.9mm)	11/16" (17.5mm)
39042	A	10-32 UNF-2B	1/4" (6.4mm)	13/64" (5.2mm)	21/64" (8.3mm)	5/8" (15.9mm)
39045 *	A	10-32 UNF-2B	5/16" (7.9mm)	3/8" (9.5mm)	3/8" (9.5mm)	15/16" (23.8mm)
4 SERIES						
49008 *	A	1/4-28 UNF-2B	1/4" (6.4mm)	13/32" (10.3mm)	1/2" (12.7mm)	1-1/16" (27.0mm)
49008-1	A	1/4-28 UNF-2B	1/4" (6.4mm)	5/16" (7.9mm)	1/2" (12.7mm)	31/32" (24.6mm)
49011	A	1/4-28 UNF-2B	1/4" (6.4mm)	13/64" (5.2mm)	7/16" (11.1mm)	3/4" (19.1mm)
49042	A	1/4-28 UNF-2B	3/8" (9.5mm)	15/32" (11.9mm)	1/2" (12.7mm)	1-3/16" (30.2mm)
50061-1	A	1/4-28 UNF-2B	5/16" (7.9mm)	3/16" (4.8mm)	9/16" (14.3mm)	27/32" (21.4mm)

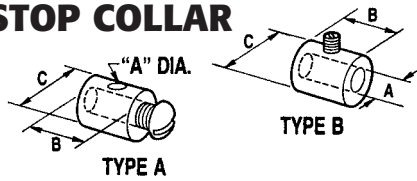
CLIP BRACKET



Part #	Type	A	B	C	D	E
3 SERIES						
30121	B	9/32" (7.5mm)	3/8" (9.5mm)	1/4" (6.4mm)	5/8" (15.9mm)	1-7/32" (30.0mm)
39004-1	A	9/32" (7.5mm)	3/8" (9.5mm)	1/4" (6.4mm)	5/8" (15.9mm)	1-5/16" (33.3mm)
39004-2	A	9/32" (7.5mm)	3/8" (9.5mm)	1/4" (6.4mm)	5/8" (15.9mm)	1-5/16" (33.3mm)

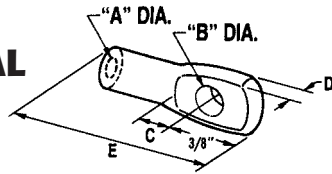
*Consult factory for leadtime and availability.

STOP COLLAR

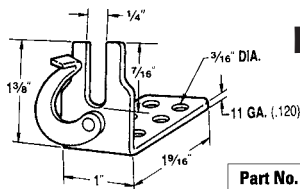


Part #	Type	A	B	CD	
3 SERIES					
30103	A	7/64" (2.8mm)	5/16" (7.9mm)	5/16" (7.9mm)	—
4 SERIES					
40081	A *	3/16" (4.8mm)	5/16" (7.9mm)	5/16" (7.9mm)	—
49043	B	3/16" (4.8mm)	1/4" (6.4mm)	7/16" (11.1mm)	—

TERMINAL EYES



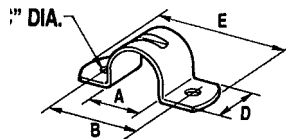
Part #	A	B	C	D	E
3 SERIES					
49004-4 *	10-32 UNF-2B	1/8" (3.2mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
4 SERIES					
49004-1	1/4-28 UNF-2B	5/16" (7.9mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
49004-2 *	1/4-28 UNF-2B	1/2" (12.7mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
49004-3	1/4-28 UNF-2B	1/4" (6.4mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
6 SERIES					
69004-1	5/16-24 UNF-2B	3/8" (9.5mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
69004-2 *	5/16-24 UNF-2B	5/16" (7.9mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
69004-3 *	5/16-24 UNF-2B	1/2" (12.7mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)
69004-4	5/16-24 UNF-2B	1/4" (6.4mm)	5/8" (15.9mm)	3/8" (9.5mm)	1-7/8" (47.6mm)



FIELD CLAMP

Part No. 39030-1

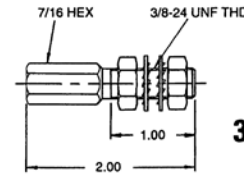
CLAMP



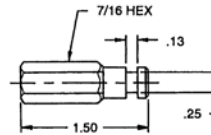
Part #	A	B	C	D	E
3 SERIES					
39001	3/8" (9.5mm)	1" (25.4mm)	13/64" (5.2mm)	1/2" (12.7mm)	1-1/2" (38.1mm)
4 SERIES					
49001	1/2" (12.7mm)	1" (25.4mm)	7/32" (5.6mm)	1/2" (12.7mm)	1-1/2" (38.1mm)
6 SERIES					
69001	9/16" (14.3mm)	1-1/4" (31.8mm)	9/32" (7.1mm)	5/8" (15.9mm)	1-5/8" (41.3mm)

Field Hub Kits for Standard Felsted® Brand 3 Series Cables

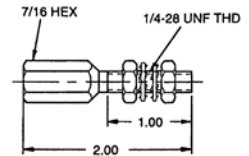
(Solid or HP Core) • (Conduit Outside Diameter of .31")



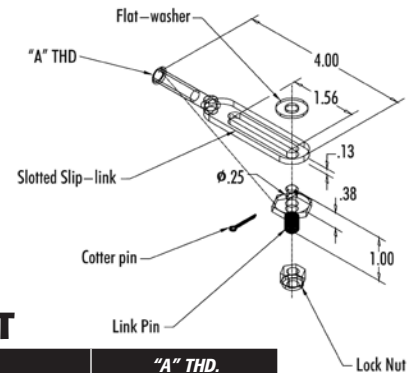
Kit #39067-2
3/8-24 THD HUB



Kit #39067-3
CLAMP HUB



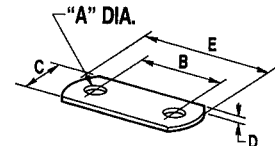
Kit #39067-4
1/4-28 THD HUB



SLIP LINK KIT

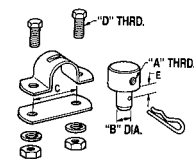
Kit Number	"A" THD.
Polymer 59049-1 59049-2	10-32 UNF-2B 1/4-28 UNF-2B
Metal M00-59049-1 M00-59049-2	10-32 UNF-2B 1/4-28 UNF-2B

SHIM

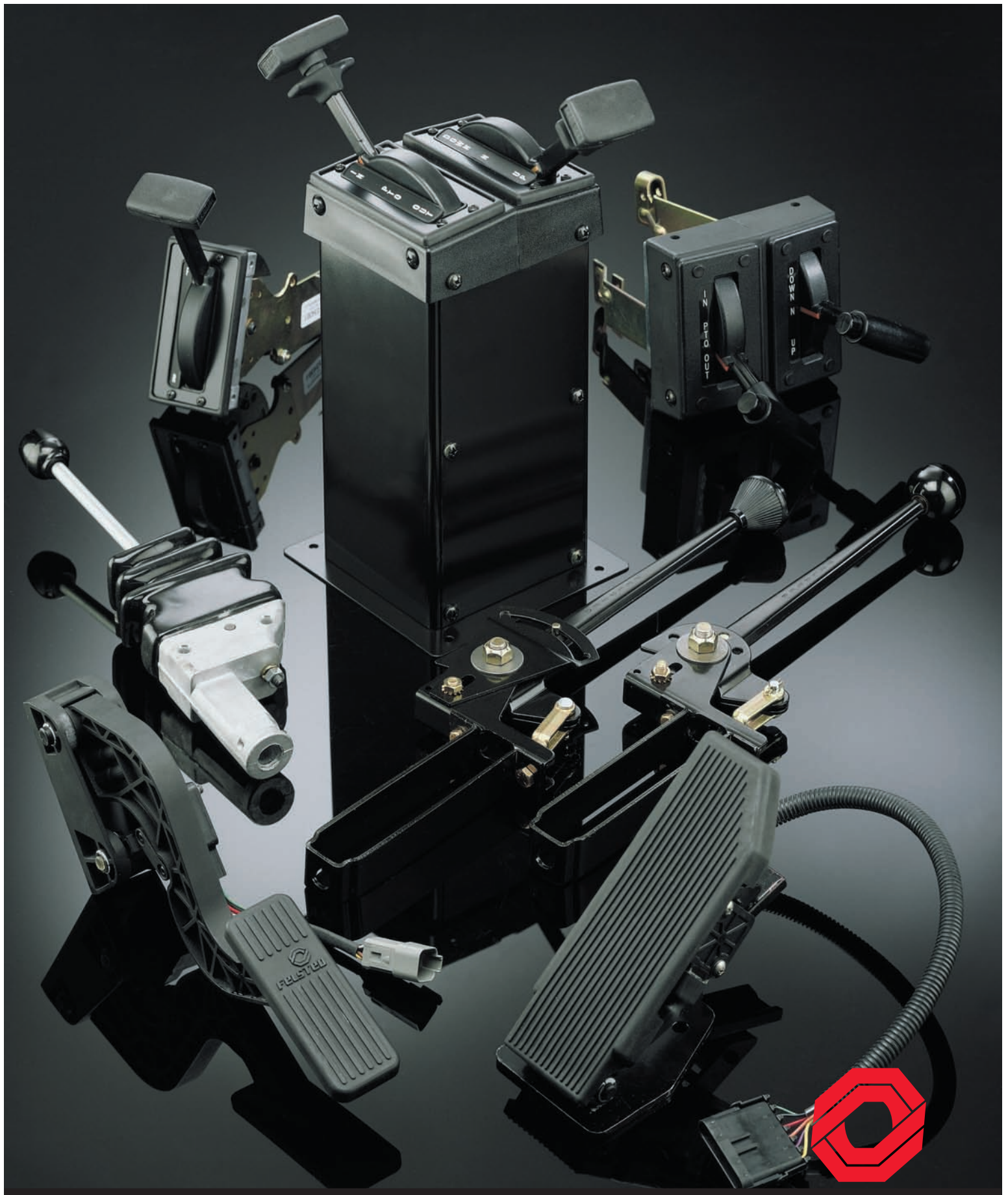


Part #	A	B	C	D	E
3 & 4 SERIES					
39002	13/64" (5.2mm)	1" (25.4mm)	1/2" (12.7mm)	3/32" (2.4mm)	1-1/2" (38.1mm)
6 SERIES					
69002	9/32" (7.5mm)	1-1/4" (31.8mm)	5/8" (15.9mm)	5/64" (2.0mm)	1-3/4" (44.5mm)

SHIFTER CABLE CONNECTION KIT



Kit #	A THD.	B DIA.	C	D THD.	E
50030	1/4-28 UNF-2B	5/16" (7.9mm)	1" (25.4mm)	10-32 UNF-2A	1/8" (3.2mm)
50035	5/16-24 UNF-2B	5/16" (7.9mm)	1-1/4" (31.8mm)	1/4-20 UNF-2A	1/8" (3.2mm)
59033	10-32 UNF-2B	5/16" (7.9mm)	1" (25.4mm)	10-32 UNC-2A	1/8" (3.2mm)



ORSCHELN®

Felsted® Engine, Valve, and Pump Controls

www.cccables.com

18 of 78

The Global Leaders

in motion control systems.

This catalog includes Felsted's engine, valve, and pump controls. For more than 25 years, Felsted has produced hand and foot controls for the on-highway and off-highway heavy-duty markets. Most controls in this catalog continue to utilize mechanical control cables which we produce for both OEM and aftermarket needs. In addition, we have designed foot pedals and hand vernier controls for the new generation of electronic controlled diesel engines.



Above: Floor mount throttle pedals for electronic engines.
Right photo: Prototype concepts of suspended pedals.



Engine Controls

Felsted designs and manufactures floor throttle pedals for both mechanical and electronic governed engines. Our rugged steel mechanical pedal on pages 5-6 is used on various on and off highway equipment. (See Felsted HP Cable catalog for throttle and vernier control cables.) For the new electronic controlled diesels, see page 2 for our standard floor pedals. Suspended style throttle pedals are unique to each OEM application.

Please consult the factory for the latest specifications.

New generation vehicles are demanding more reliable electronics, lightweight materials, and corrosion resistant materials. Long life sensors and molded polymers are used to provide lightweight and durable performance.

Valve and pump controls

Hand levers to remotely operate spool valves are on page 7, and companion Heavy-Duty levers are on pages 9-10. These cable controlled levers provide rugged operation and flexibility for remote location.

For PTO and hoist controls on dump trucks, see pages 11-12 and 13-14. Felsted offers both "T" handle and side push button styles.

Catalog Index

Floor Pedal for Electronic Engines	2
EV2 Vernier Hand Control for Electronic Engines	3
Friction Throttle Control	4
Mechanical Floor Accelerator Pedal	5-6
RVO Remote Valve Controls	7
Valve Connection Kits	8
Heavy-Duty Levers	9-10
NG Dump Body Controls: PTO/Hoist	11-12
Dump Body Controls — T-Handle	13-14

Specifications in this catalog are subject to change without notice.

Electronic Foot Pedal for Heavy-Duty Electronic Diesel Engines

The foot pedal delivers a precision signal that interacts with the engine's electronic fuel management systems. Polymer components create a lightweight pedal, as much as half the weight of current pedals in the marketplace. This fast-reacting pedal provides smooth driver operation, and features a durable, longer-life potentiometer. Quality testing ensures reliability and durability.



Specifications for Electronic Foot Pedal

Functional

Actuation Force applied perpendicular to the treadle surface and at a point 7.4 inches (188 mm) from centerline of the pivot axis.

Initial Movement	> 2 lbs. (9 N)
Full Throttle	< 11.5 lbs. (51 N)
Rotational Angle	16-20°

Weight

Weight of Pedal	1.9 lbs. (.86 Kg)
-----------------	-------------------

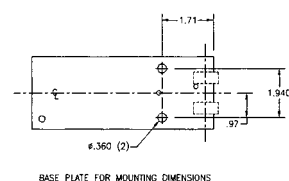
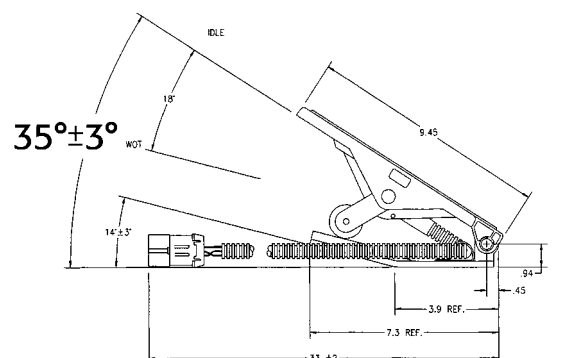
Durability

Full Stroke Cycles	10 Million
Dither Cycles ± 1	
Degree, Mid Range	80 Million

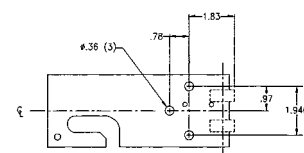
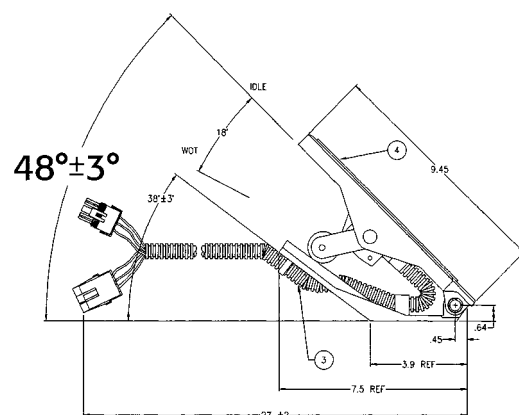
Electrical Specifications

Potentiometer	2.5 k $\pm 15\%$ Ohm's
Maximum Voltage	13.5 Vdc
Power Rating	0.15 W @ 85° C
Max continuous current	20 mA
*Minimum output	0.5% $\pm 0.5\%$ of ref. V.
*Maximum output	93% $\pm 2\%$ of ref. V.

*Minimum and Maximum outputs controlled by mechanical assembly of pedal.



BASE PLATE FOR MOUNTING DIMENSIONS



PARTIAL VIEW OF BOTTOM FOR MOUNTING DIMENSIONS

Electronic Pedal Product Numbers	Standard Models	*35° Pedal Angle	48° Pedal Angle
Caterpillar		EFP107-00	EFP102-00
Cummins		EFP108-00	EFP103-00
Detroit Diesel		EFP109-00	EFP104-00
Mack	VMAC	EFP110-00	EFP105-00
Navistar		EFP111-00	EFP106-00

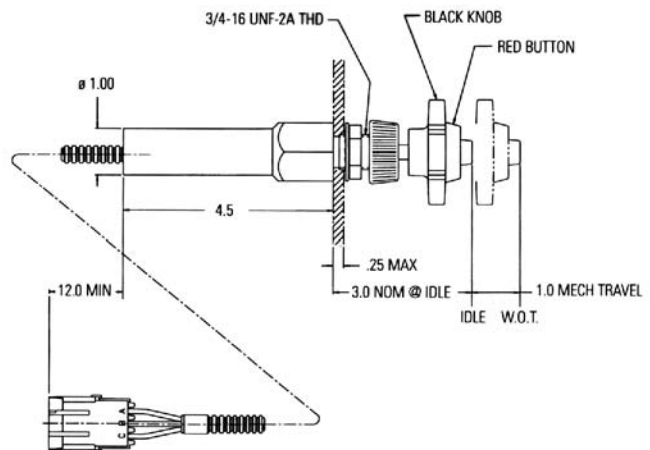
EV2 (Vernier Control for Electronic Engines)

The Felsted® Electronic Vernier (EV2), has been designed to provide precise, variable engine speed adjustment on electronically controlled stationary engines, or from a remote operating position on mobile equipment. We have engineered the EV2 to allow capability with most electronically-controlled diesel engines.



The EV2 is easy to operate, even with gloves on. The **large (2-1/4") diameter**, easily identifiable knob provides continuous engine speed regulation **from idle to wide open throttle in seven (7) full turns**, providing fine engine speed adjustment. To prevent accidental overrevving, the EV2 cannot be pulled to the wide open throttle position - it must be turned. It does, however, offer a **quick shut-down** feature activated by pushing in the knob. The EV2 also offers an adjustable friction collar to prevent accidental changes in engine speed. When a change in engine speed is desired, the friction collar may be loosened.

The Felsted EV2 is easily installed in a very limited amount of space. The EV2 requires a .78" diameter drilled hole, and only 4.5" clearance behind the dash panel. The EV2 is **pre-set at the factory**, with no field adjustment necessary. The potentiometer unit is sealed for protection against moisture and contaminants.



EV2 Product Numbers	Standard Models*	Part Number
Cummins	'B' and 'C' Series (no IVS)	EVR001
Detroit Diesel	DDEC I, II, III	55790-1
Mack	VMAC	EVR001
Navistar	T444E, DT446E, 530E	EVR001
*Consult factory for availability on other models.		

VMAC is a registered trademark of Mack Truck. • DDEC is a registered trademark of Detroit Diesel Corporation.

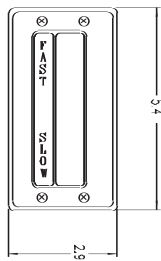
Chassis Harness / Connector

Requires customer supplied items as follows: Packard Electric Connector - Three Way Weatherpack

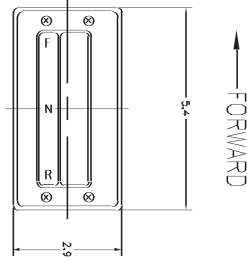
EV2 Product Numbers	Packard P/N	Cable Diameter
1 pc. Tower	12015793	
3 pc. Female Terminal (typical)	12010182	#14 - 16 gauge
3 pc. Seal (typical)	12015899	.06" - .08"

Throttle Control with Friction Pad

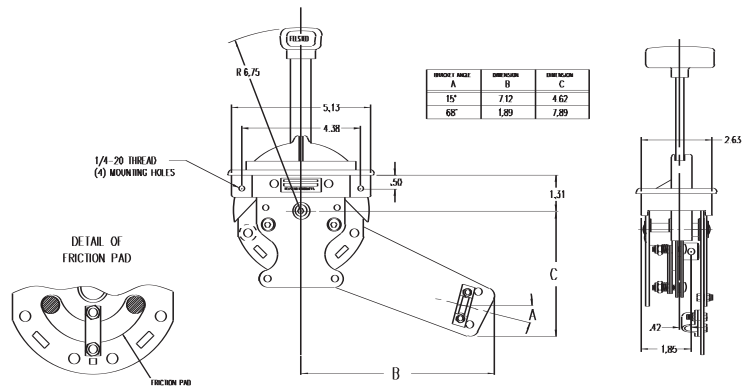
Tough, demanding conditions on mining and construction equipment, drilling rigs, and on and off-highway equipment need a throttle control that is adjustable and stays put. The friction pad was formulated from a special material that gives the control the positive feel and settings needed, especially in an environment with vibration and contaminants. This hand operated control connects to a push-pull cable that is attached to the engine governor, or other apparatus needing variable control.



55801 - OPTIONS
Locks in "slow" position



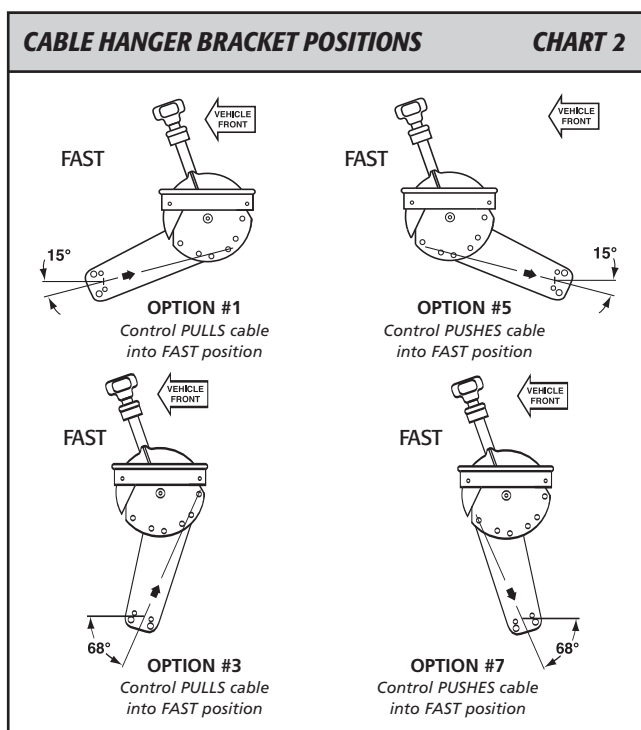
55943 - OPTIONS
Locks in "N" position



How to Order the Throttle Control

Handle Type	Position Indicator	Assembly Part Number					
T - HANDLE	F - N - R	55943	—				
	FAST - SLOW	55801					
TOP PUSH BUTTON	FAST - SLOW	55800					
				OPTION # chart 1	OPTION # chart 2	OPTION # chart 3	OPTION # chart 4
				OPTION # chart 5	OPTION # chart 6		

Follow the charts below to construct the ASSEMBLY PART NUMBER for your specific throttle control. First, choose the type of throttle control you need (first 5 digits). Second, choose appropriate options from each chart and place the option # into the appropriate coded boxes. When combined, you will have your ASSEMBLY PART NUMBER.



CONTROL MOUNT/FAST POSITIONS		CHART 1
Vehicle Front	"Fast" or "F" to front	
OPTION #1 LEFT hand mount	OPTION #2 RIGHT hand mount	
CABLE SERIES OPTIONS		CHART 3
4 Series 1/4-28 (.25-28) Thread	6 Series 5/16-24 (.31-24) Thread	
CABLE TRAVEL OPTIONS		CHART 4
2" Travel	3" Travel	
Note: All controls must use a 3" Travel Cable.		
GATE CONFIGURATION OPTIONS		CHART 5
No Gate	Control Lock in Detent	
ILLUMINATION		CHART 6
With Light		

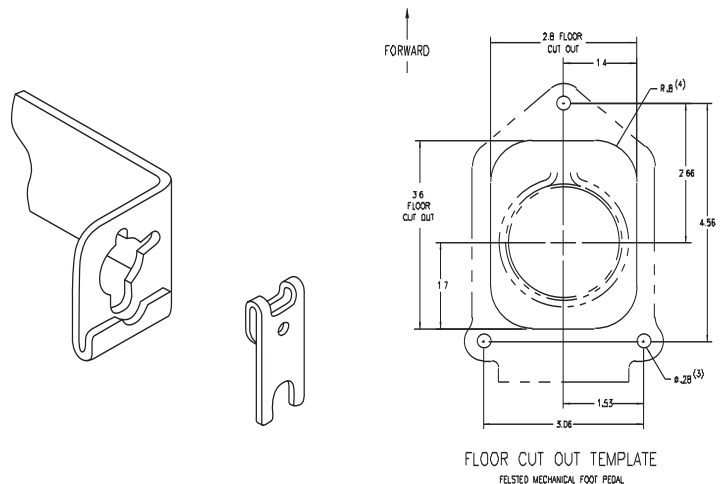
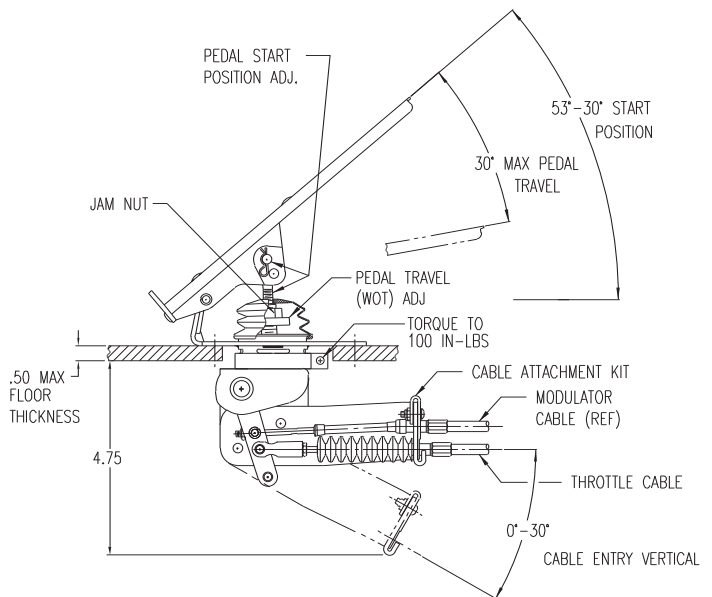
Felsted Foot Pedal - Mechanical

The Felsted foot pedal is the heavy-duty choice for trucks, buses, agricultural equipment, construction equipment, and virtually all other applications that call for a foot operated control. That's because its rugged steel stamping construction offers far greater rigidity, durability, and reliability than aluminum die castings. And because it's designed with oil impregnated bronze bearings that won't wear out like nylon bearings. For ease of installation, it bolts to the floor with three point mounting and incorporates a unique keyhole mount for the cable hub that requires only a single fastener. For flexibility, it has 360° adjustability for cable entry, is available with either two-inch or three-inch travel, and either three or four series cable. And for even greater flexibility, you can connect a modulator to the pedal, eliminating the need for cumbersome linkages to the engine governor. Other features include a self-cleaning boot that deflects dirt and debris, a double torsion pedal return spring, adjustable pedal height, and a factory assembled heel rest. When used with Felsted cables and modulators, the Felsted Foot Pedal gives you a complete system you can rely on.



Specifications for Foot Pedal

Horizontal Cable Entry	360° Adjustable
Vertical Cable Entry	0° - 30° Adjustable
Pedal Angle	30° - 53° At Idle
Cable Travel	2" - 3" Travel Available
Cable Size	3 or 4 Series Option
Construction	Steel Stamping - Plated for Corrosion Resistance
Bearings	Oil impregnated Bronze Bearings
Upper Boot	Neoprene
Pedal Return Spring	Double Torsion
Pedal Stop	Adjustable, Enclosed for Protection
Floor Thickness	Up to .50" Max.
Protrusion Underfloor	2" Travel: 4 3/4" 3" Travel: 4 3/4"
Main Linkage Bearings	Self Aligning
Cable Hub Connection	Keyhole Mounting Requires Single Fastener*
Pedal Load	Recommended Maximum Load: 25 lbs. Pedal Load at Installation Should Not Exceed 12 lbs. Recommended Maximum Load at Wide Open Throttle Stop: 100 lbs.**
Mechanical Advantages	2" Travel: 1.4 3" Travel: 1.0
Modulator	Available With or Without Modulator Pivot (Special Modulator Required - See Back Page)
Heel Rest	With or Without Heel Rest, Can Be Field Installed



Single Fastener Keyhole Mounting System For Easy Installation
(Note: Felsted cables and pedal modulators must be used to engage keyhole mounting feature.)

Floor Cut Out Template for Felsted Mechanical Foot Pedal

All measurements in inches.

Specifications subject to change without notice.

*Felsted cables and modulators must be used to engage keyhole mounting system.

**Based on load applied to pedal surface 6 inches from pedal pivot and 90° to surface.

How to Order a Foot Pedal - Mechanical

Ordering the foot pedal that meets your needs is not difficult. Simply follow the instructions below to create the assembly part number. The first five numbers will be followed by three numbers that are chosen from the charts below.

1. Choose either a 2" or 3" Travel. This number is your BASIC NUMBER.
2. Choose the appropriate options from charts 1, 2, and 3.
3. Place each option number that you have chosen into its corresponding colored box. These create your ASSEMBLY CODE.
4. Combine all eight numbers to create the ASSEMBLY PART NUMBER.
For example, the final assembly part number could possibly be 95002-300. (2" travel, 3 series, no heel rest, no modulator)

Assembly Part Number

2" TRAVEL	<div style="border: 1px solid black; padding: 10px; font-size: 24px; background-color: #f0f0f0;">95002</div>					
3" TRAVEL	<div style="border: 1px solid black; padding: 10px; font-size: 24px; background-color: #f0f0f0;">95003</div>					

CABLE SERIES OPTIONS	HEEL REST OPTIONS	MODULATOR PIVOT
CHART 1 <div style="display: flex; justify-content: space-around;"> <div>3 Series 3</div> <div>4 Series 4</div> </div>	CHART 2 <div style="display: flex; justify-content: space-around;"> <div>No Heel Rest 0</div> <div>With Heel Rest 1</div> </div>	CHART 3 <div style="display: flex; justify-content: space-around;"> <div>No Modulator 0</div> <div>With Pivot Modulator 1</div> </div>

Foot Pedal Service Parts

Cable Hanger Kit

99000-1 = 2" Travel
99000-2 = 3" Travel

Includes:
Hanger Assembly
Flange Nuts (2)

Cable Attach Kit

99001-1 = 3 Series
99001-2 = 4 Series

Includes:
Lock Plate Assembly and Screw
Pin and Hair Pin Cotter
Clevis

Upper Boot Kit

99002-1

Includes:
Upper Boot
Pin and Hair Pin Cotter
Jam Nut

Heel Rest Kit

99003-1

Includes:
Heel Rest
Self Tap Screws (2)

Modulators for Foot Pedal *

Modulators

98000-Length = 2" Travel
98001-Length = 3" Travel

Allison Transmissions Only

Cables *

3 Series

#10-32UNF-2A

352X3-Length = 2" Travel
353X3-Length = 3" Travel

4 Series

1/4-28UNF-2A

452X3-Length = 2" Travel
453X3-Length = 3" Travel

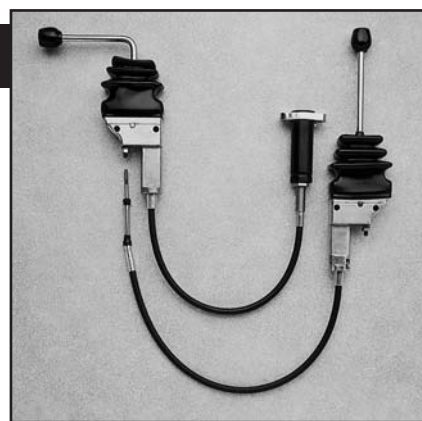
* Felsted cables and modulators must be used to engage keyhole mounting system.

Other configurations available. Consult Factory.
X = Specify 2 for bulkhead, 3 for clamp.

RVO Controls

The Felsted remote valve operator (RVO) control system permits highly efficient remote cable operation of hydraulic spool valves. While the control head is in easy reach of the operator, the noise, heat, and inconvenience of high pressure hydraulic lines are removed from the cab area. In addition to economical installation, the Felsted system also allows greater flexibility when planning valve placement.

A remote valve control system consists of a control head, a cable, and a valve connection kit. Felsted systems are designed for ease of installation, operation, and maintenance in a wide variety of equipment in agriculture, construction, off-highway trucks, and industrial applications.



Control Cables

See Felsted Cable Catalog for more Information

100-45600 - Length

Input end connects to control head, output end connects to universal connection kit.

100-45622 - Length

Input end connects to control head, output end is a series 2" travel bulkhead type connection.

100-45623 - Length

Input end connects to control head, output end is a 4 series 2" travel clamp type connection stainless steel

Rods, sleeves

Temp. rating

-65°F to +225°F.

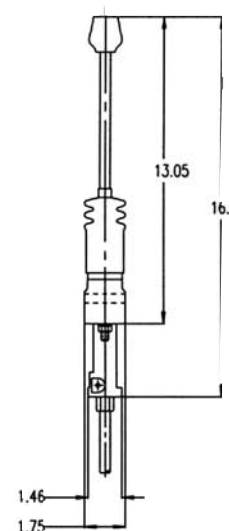
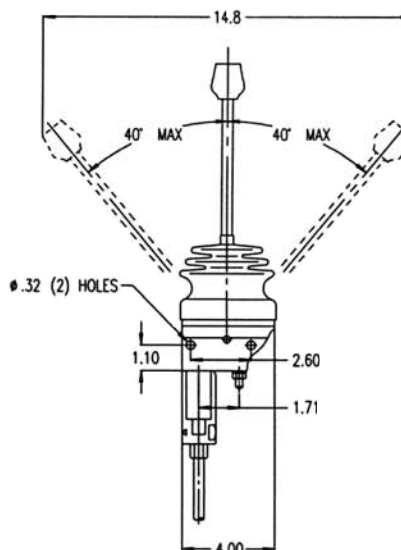
(Hi-temp avail. to +300°F)

Bend Radii

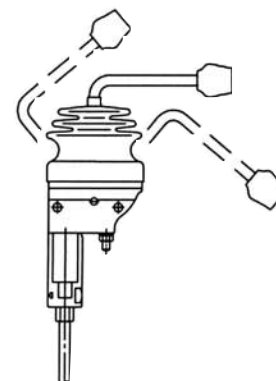
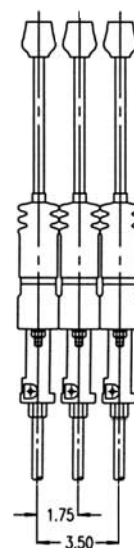
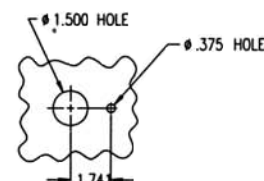
5"

Connection Kits

See page 8 of this catalog.



P/N 55700#



P/N 55709#

Specifications for Remote Valve Operator

Control Head	55700#, 55709# 90° Handle
Handle	Plated Steel
Boot	PVC Dip Molded
Housing	Die Cast Aluminum
Knob	Black Phenolic
Overall Length	16.4 Inches
Spring Action	Spring Centered 40° Forward/Rear
Travel	1.75 Inches Max.
Stackable	Create Multiples, Combinations, Both 55700 and 55709
Cable Servicing	When Stacked, Cables Can Be Serviced Without Complete Disassembly.

Valve Connection Kits - RVO and Heavy-Duty Levers - 4 Series Only

Note: Requires special cable. Not for use with H.D. Levers with 3" travel.

Valve	Valve Model	Felsted Kit Part No.
Commercial Intertech	A 20 Rear Entry	59102
	A 35 Spring Return Rear Entry	59118
	D 50	59120
	A 35 Front Entry	59134
	C 102, C 101 Pump, 1 1/2" Dia. Nose Only	59172
	VA-20 Front Entry	59218
Cross	BA, BC, CA, CD	59104
Energy	CVP, CVS D, CVA-200	59100
Gresen	25P, CP, CS, V20, V42	59100
	V-70	59109
	V50	59383-1
Husco	5000	59119
	6000	59103
Hydro-Control	HC-D2 Rear Entry	59127
Parker	VDP-12	59108
Prince	5100	59354-1
Racine	3/8	59103
	1/2	59108
Rexroth (Borgwarner)	MP-18, 30-S2	59101
	MP-18	59178
For kits not listed, check with factory.		

Cables to be used with connection kits

Heavy-Duty Lever 2" TRVL
Remote Valve Control

100-45630-Length
100-45600-Length

Cables not included, must order separate.

Heavy-Duty Levers

Felsted's Heavy-Duty Levers are built especially for rugged, demanding applications in the construction, farm, and specialty truck business. In addition to the standard version, a push button version is also available which provides convenient push button operation and a choice of five gate configurations to offer a variety of design applications where the lever needs a detent locking mechanism.

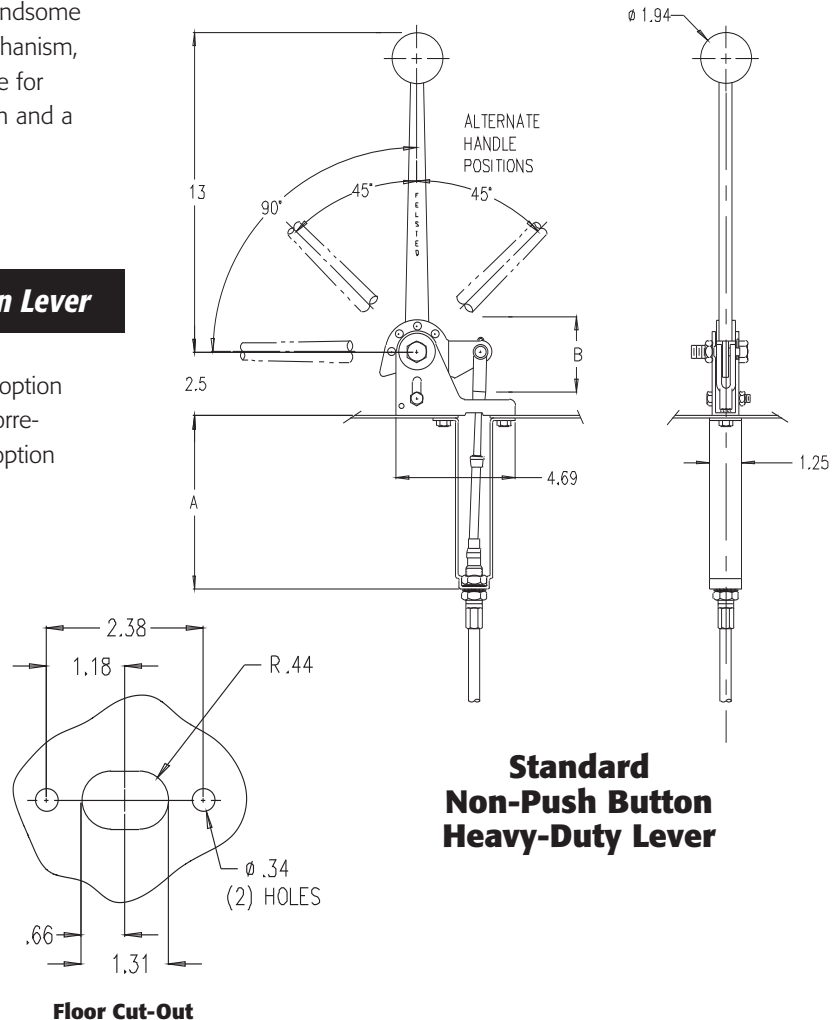
The mechanical advantage of both levers is 5:1 with operating loads from 125 to 400 pounds dependent on cable series and travel. Superior corrosion resistance is provided by a handsome black matte finish Electrocoat Coating for the lever mechanism, which will meet 5% Salt-Spray, 336-500, with zinc plate for fasteners. Other advantages include a lightweight design and a pivot bushing.



How to Order a Standard Non-Push Button Lever

To build an Assembly Part Number, please refer to the option charts below, and place the option numbers into the corresponding color coded boxes. Please Note: Knob color option only exists as black, which is #1.

KNOB COLOR OPTIONS		CHART 1
Black Knob Color	1	
CABLE SERIES OPTIONS		CHART 2
4 Series	4	6 Series 6
TRAVEL DISTANCE		CHART 3
2 Inches	2	3 Inches 3



Assembly Part Number

Hollow Steel Handle

58000

Solid Steel Handle

58100

1

OPTION #
chart 1

OPTION #
chart 2

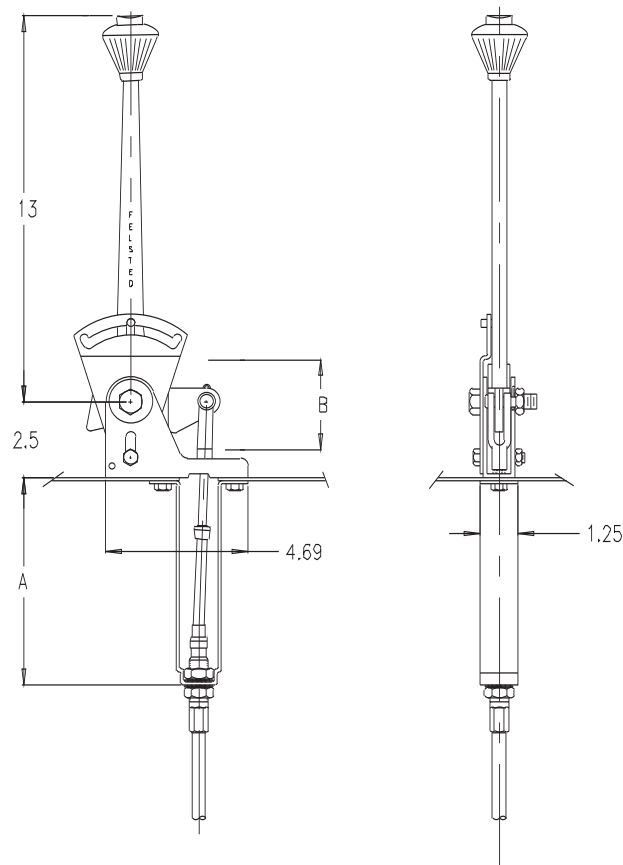
OPTION #
chart 3

Push Button Heavy-Duty Levers

Recommended Cables for Push Button and Standard Levers:

Cable Part Number	Dim. "A"	Travel Dim. "B"	Cable Series	Input Max. Load Lb.
100-4222-length	5 1/2"	2"	4	150
100-4223-length	5 1/2"	2"	4	150
100-4322-length	7"	3"	4	125
100-4323-length	7"	3"	4	125
100-6222-length	5 1/2"	2"	6	250
100-6223-length	5 1/2"	2"	6	250
100-6322-length	7"	3"	6	210
100-6323-length	7"	3"	6	210

Cables not included. All dimensions in inches.
Mounting dimensions same for push button and standard levers.



Push Button Heavy-Duty Lever

How to Order a Push Button Heavy-Duty Lever

GATE CONFIGURATIONS		CHART 1
POSITION #1	POSITION #2	POSITION #3
POSITION #4	POSITION #5	

CABLE SERIES OPTIONS		CHART 2
4 Series	4	6 Series 6

TRAVEL DISTANCE		CHART 3
2 Inches	2	3 Inches 3

Assembly Part Number

Push Button Style

58001

OPTION #
chart 1

OPTION #
chart 2

OPTION #
chart 3

NG Dump Body Control

The NG (New Generation) Dump Body Control is for operation of pumps, hydraulic spool valves, and PTO's.

Designed and manufactured with World Class techniques, this control combines rugged steel components, heat treated in critical areas, with a simple modular construction to produce a "New Generation" of mechanical control products. This new line of products combines the strength and reliability of our current mechanical controls with the latest in manufacturing technologies to produce a high value control system for our customers.

As an added feature for easy installation, we have incorporated a quick-connect cable mounting system into this control. Utilizing a clamp built into the cable mounting bracket, the assembler needs only a standard 1/4 x 1" bolt and locknut to attach the cable to the control. This allows faster assembly of the cable, while using common mounting hardware available anywhere.

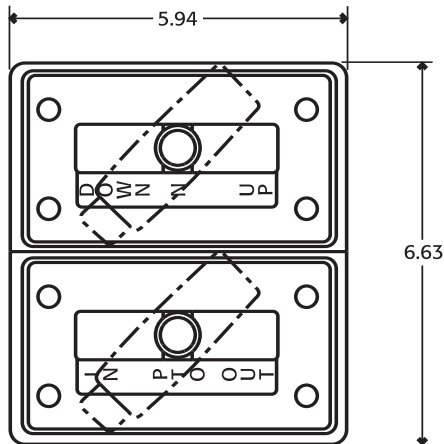
Just like the T-Handle unit, this Dump Body Control features a positive locking detent system which minimizes the possibility of the control being unintentionally bumped or knocked out of detent. The Hoist Control locks in "N" (neutral) position and the PTO locks in "OUT" position. To release from detent, just push in on the side push button and move the lever to desired position. The illuminated position strip and lever indicator provide position range indication day and night.



Specifications for NG Dump Body Control

Cable Size Required	4 Series, 3" Travel Cable with Clamp Type Hub and 1/4-28 Rod Threads (Cable #100-4323-Length for Bulkhead or #100-4333-Length for clamp mounting) (Cable #100-45734-Length for Felsted Universal Connection Kits)
Cable Travel Produced	2 1/2"
Cable Bracket Angle	90 Degrees for Tower Installation
Cable Mounting	Built-in Cable Clamp Requires a 1/4 x 1" Bolt w/Locknut
Control Construction	Steel Chassis and Handle Assembly Polymer Knob and Trim Covers
Corrosion Protection	Black E-coat for Handle Zinc Plate for Other Metal Components
Control Mounting	Right Hand Mount for Tower Mounting Configuration
Illumination	28 VDC
Handle Configuration	Side Push Button Angled at 45 Degrees
Hoist Operation	Lever Locks in "N" Position Pushing Lever to "DOWN" (Forward) Pushes Cable Lever Locks in "OUT" Position Pushing Lever to "IN" (Forward) Pulls Cable
PTO Operation	

NG Dump Body Control



Hoist Control Notes

- Lever locks in the "N" position.
- Pushing lever to "DOWN" position pushes cable.

PTO Control Notes

- Lever locks in the "OUT" position.
- Pushing lever to "1N" position pulls cable.

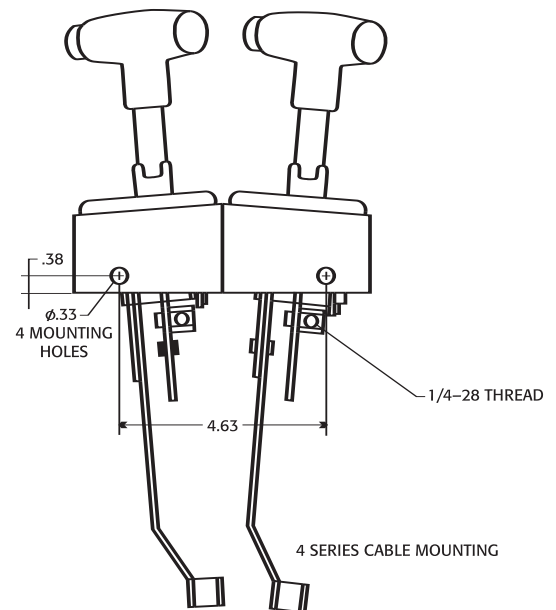
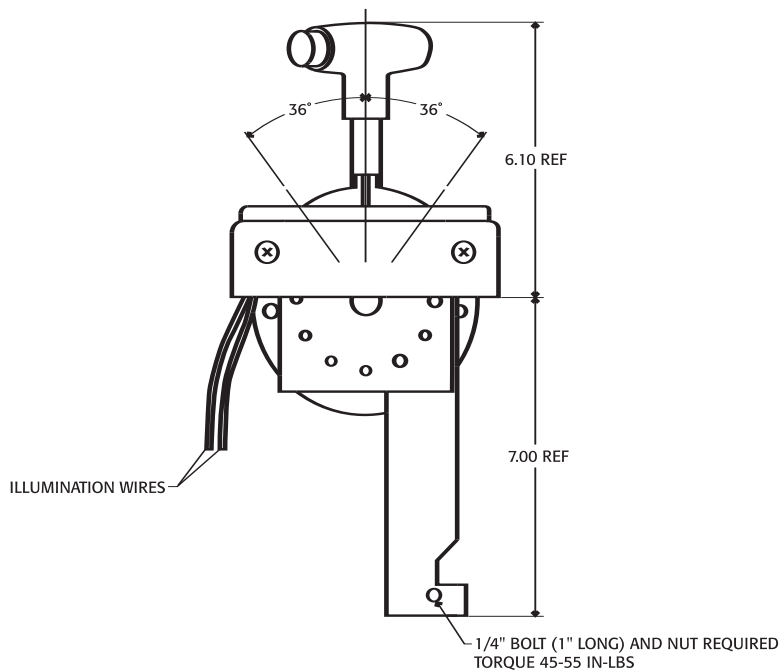
Part Numbers

Dual Controls

NG0003	NG PTO / Hoist Control (PTO on left, hoist on right, as shown)
NG0004	NG Hoist / PTO Control (Hoist on left, PTO on right)

Single Controls

NG0001	NG Hoist Control
NG0001	NG PTO Control
NG0005-1	Knob Service Kit



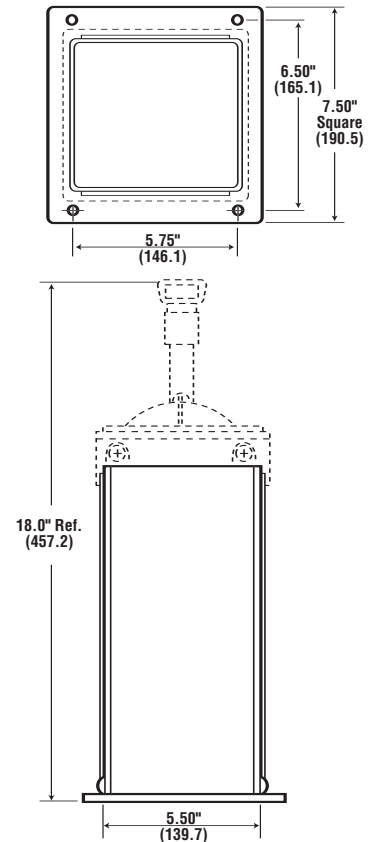
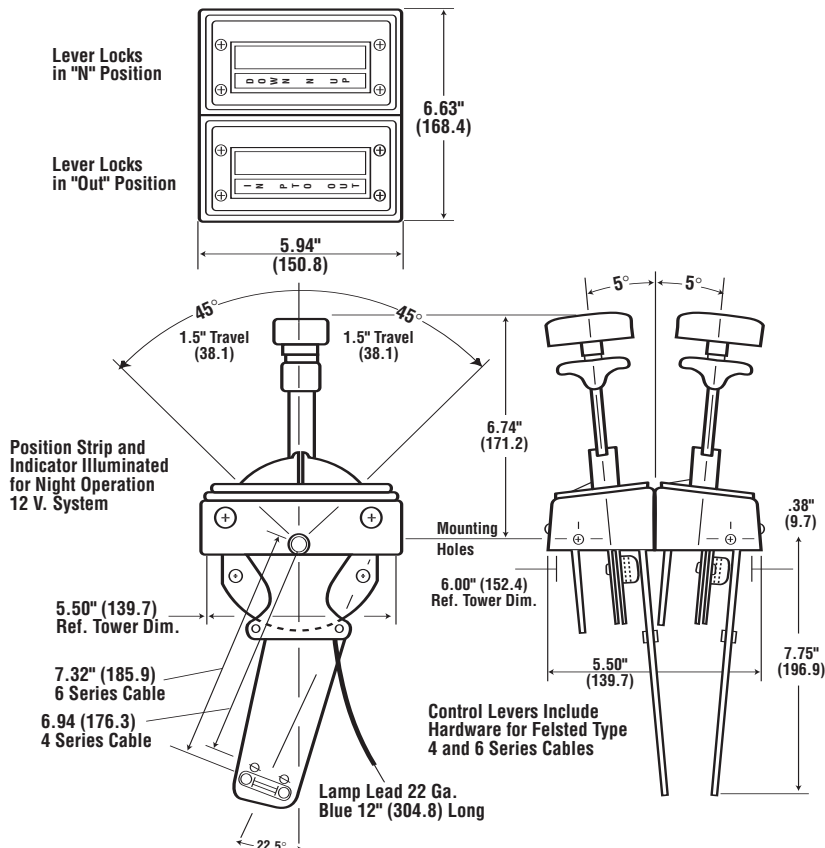
T-Handle Dump Body Control Systems

The Felsted T-Handle Dump Body Control is used to control the PTO and/or pump for dump body hoists. This control is standard as a dual unit (PTO and Hoist) or available as a single unit (PTO or Hoist), or a triple control unit (two Hoists and a PTO). Quad units are also available. Also available with the PTO control as a factory installed option, is a switch for a dash light, or secondary electrical function when PTO is engaged ("IN" position).

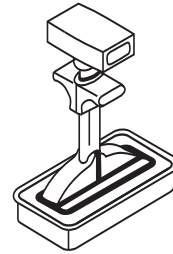
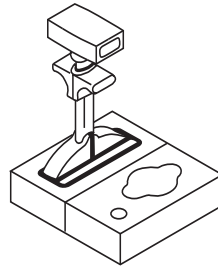
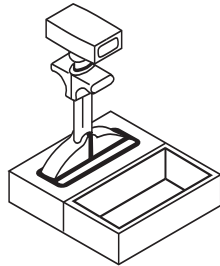
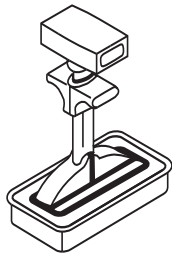
These controls feature a positive detent locking system which practically eliminates any possibility of the control being unintentionally bumped or knocked out of detent. The Hoist Control locks in "N" (neutral) position, and the PTO locks in "out" position. To release from detent, just pull up on "T" lift below the knob and move lever to desired position.

The illuminated position strip and lever indicator provide position range identification at night.

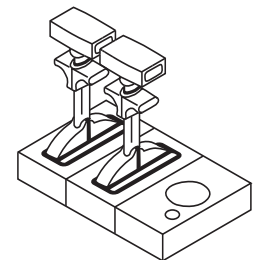
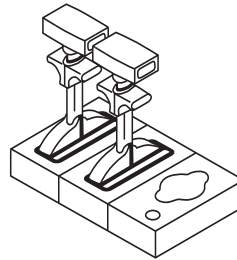
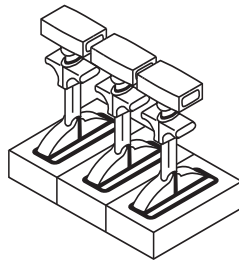
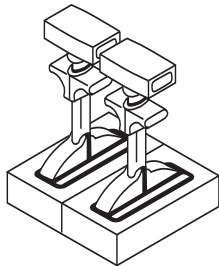
Felsted Dump Body Controls are constructed of high quality materials and workmanship incorporating hardened steel parts and a rugged housing. The stand has a tough coating for durability and long life. The control is sealed to keep engine noise, dirt and fumes from entering the cap. All controls have a maximum 3" standard cable travel and, for ease of installation, come complete with mounting hardware for both 4 & 6 series cables.



T-Handle Dump Body Control Systems



<i>Fits into 59000 Tower</i>	<i>Fits into 59015 Tower</i>	<i>Fits into 59015 Tower</i>	<i>Fits into 59015 Tower</i>
55064 PTO 55064-1 PTO w/Switch 55065 Hoist	55317 Hoist/Open	55317-2 Hoist/Muncie PTO	55317-3 Hoist/Chelsea PTO



<i>Fits into 59015 Tower</i>	<i>Fits into 59016 Tower</i>	<i>Fits into 59016 Tower</i>	<i>Fits into 59016 Tower</i>
55062 Hoist/PTO 55062-1 Hoist/PTO w/Switch 55066 Hoist/Hoist	55067 Hoist/Hoist/PTO 55067-1 Hoist/Hoist/PTO w/Switch	55780-2 Hoist/Hoist/Muncie PTO	55780-3 Hoist/Hoist/Chelsea PTO

Note: All Felsted Hoist Controls lock in "Neutral" Position. All Felsted PTO Controls Lock in "OUT" Position.

Additional Dump Body Accessories

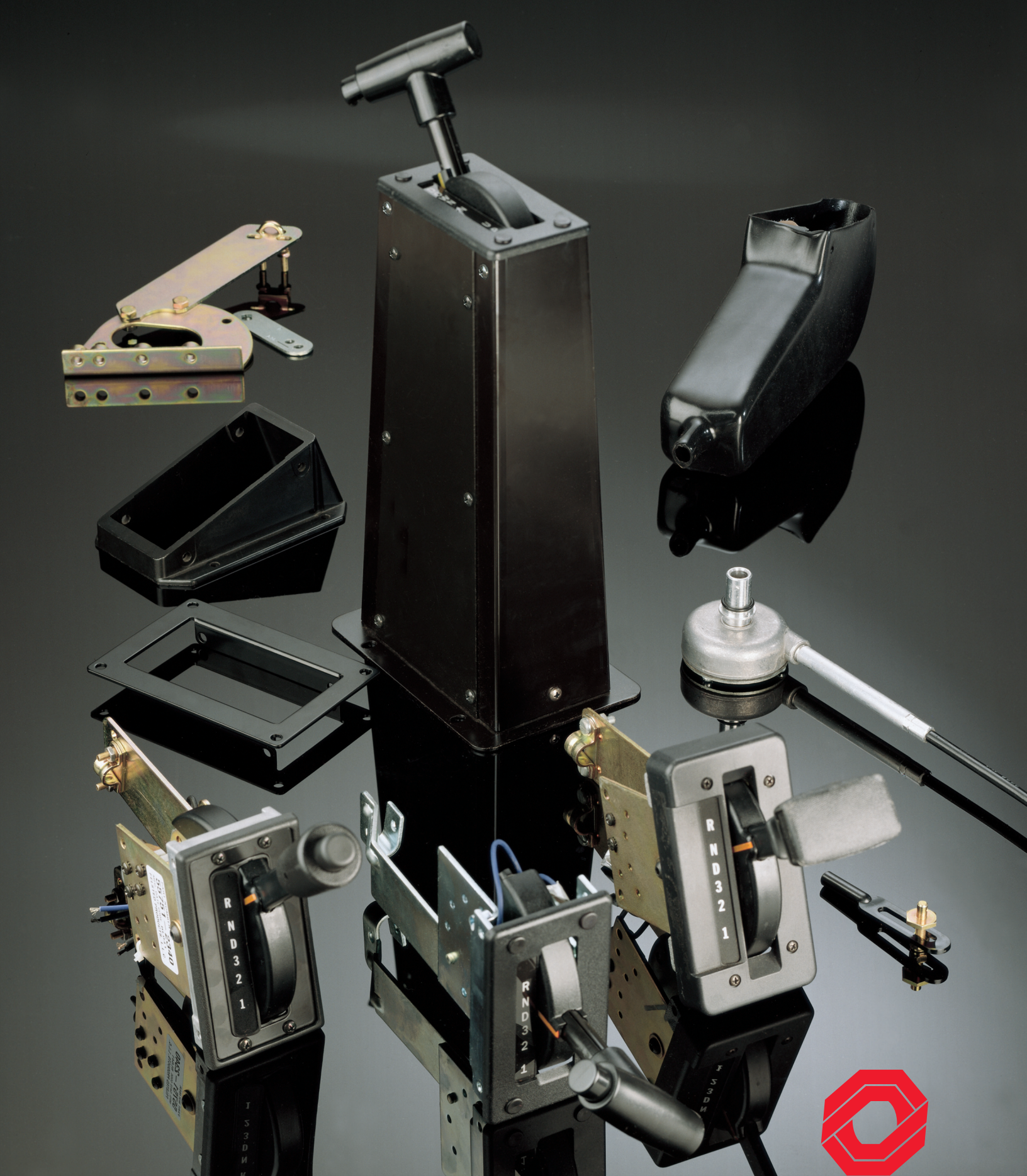
Towers	
59000	Single
59015	Double
59016	Triple

Air PTO Kits
(Top Plate and Hardware Only)

Accessories	
59002	Single Top Mount Flange
59009	Single Wedge Mounting Kit (17" Angle Wedge)

Cables	
100-4323-Length"	Bulkhead/Clamp
100-4333-Length"	Clamp/Clamp
100-6323-Length"	Bulkhead/Clamp
100-6333-Length"	Clamp/Clamp

(See Felsted
HP Cable Catalog)



ORSCHN®

Systems Available for Allison™ 1000/2000/2400

Shifters, Connection Kits, Cables, Fluid Level Indicators

Transmissions	Park	Description	Cable ____ out of Park	Cable Angle	Position Strip	Trans. Kit
LCT 1000/2400	Pawl	T-handle, R/H, Rev to front	Pulls	68	P,R,N,D,4,3,1	Top/front entry
LCT 1000/2400	Pawl	T-handle, R/H, Rev to front	Pulls	68	P,R,N,D,D,2,1	Top/front entry
LCT 2000	Brake	T-handle, R/H, Rev to front	Pushes	36	P-B, R,N,D,4,3,1	TBD
LCT 2000	None	"NG", R/H, Rev to front,	Pulls	30	R,N,D,4,3,1	Rear Entry
LCT 2000	None	"NG", L/H, Rev to front,	Pulls	30	R,N,D,4,3,1	Rear Entry
LCT 2000	None	"NG", R/H, Rev to front	Pushes	90	R,N,D,4,2,1	Top Entry
LCT 2000	None	"NG", R/H, Rev to front	Pushes	30	R,N,D,4,2,1	Top Entry
LCT 2000	None	"NG", R/H, Rev to front	Pushes	90	R,N,D,L3,L2,L1	Top Entry
LCT 2000	None	"NG", R/H, Rev to front	Pushes	30	R,N,D,L3,L2,L1	Top Entry
LCT 2000	None	"NG", R/H, Rev to front	Pulls	30	R,N,D,D,2,1	TBD

Consult factory for more details on systems available for your application.
Specifications subject to change without notice.

Control Cable Installation and Adjustment

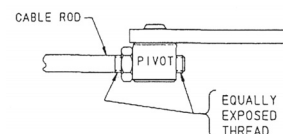
1. Verify Proper Installation

A. Connection of Cable at Shift Control

- Pivot should be centered on available cable rod thread unless otherwise noted.

B. Cable Routing

- For maximum efficiency, cables should always be installed as straight as possible.
- Cable bends should be avoided. When changes in cable direction are necessary, the bends should be as large as practical. Minimum bend radius for four series cable is 5", six series is 7".
- The addition of excessive bends and tight bend radii may make shifting more difficult. Cable routing should always be as short and direct as possible.
- Cable should be secured to adjacent structures to prevent movement under vehicle operating conditions. Always secure cables along straight sections of the cable; clamp at tangents to the cable bend.



A. Connection of Cable at Shift Control



Backlash

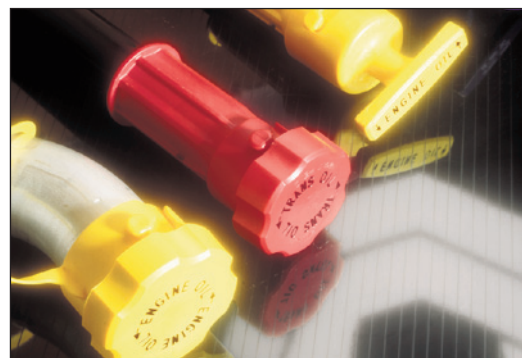
The backlash of a cable results when the core moves from the inside corner to the outside corner of a bend, and vice versa, during changes in direction. Backlash is compounded by the degrees of bend in the cable – the more bend, the more backlash. Total backlash can be determined with the above formula.

2. Adjust Shift Cable at Transmission

Place shift control in neutral and transmission into its neutral detent. Install pivot onto shift cable rod at the transmission end of cable. Grasp rod and pull with enough force to move the shifter handle against the side of its neutral detent. Note the location of pivot centerline versus its mating hole in lever. Again grasp rod and push with enough force to move the shifter handle against the opposite side of its neutral detent. Adjust pivot so that when rod is pushed or pulled as described above the pivot centerline moves an equal distance on either side of its mating hole center. Check to make certain that as the shift control selects each gear position, the pivot continues to free pin (fit freely) with its mating hole. After adjustment is complete, torque jam nut to 75 in-lbs and install cotter pin.

In Addition to Shifters and Cables, we have Transmission Fluid Level Indicators for Allison™ 1000/2000/2400

Fluid level indicators offer ergonomic design, overmolded cap and spouts, complete product assembly, and color molded to customer specifications.

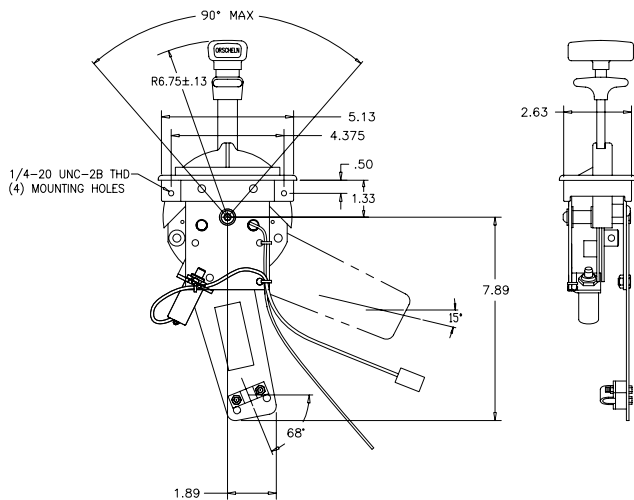
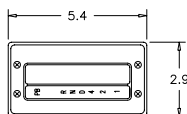
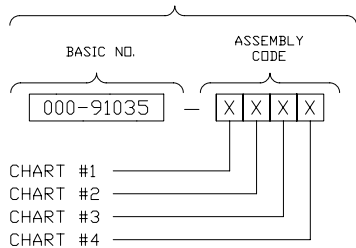


™ Allison is a registered trademark of General Motors.



ALLISON 1000/2000 SHIFT SYSTEM

ASSEMBLY PART NUMBER



PICTURE SHOWN WITH INTERLOCK (PARK SOLENOID)

CHART #1

CONTROL MOUNT OPTIONS

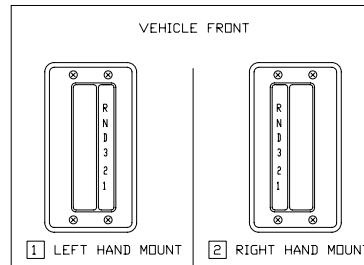


CHART #2

CABLE HANGER BRACKET POSITION OPTIONS

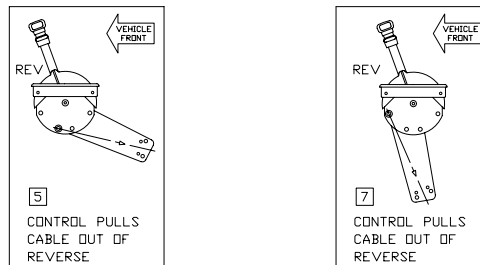


CHART #3

POSITION STRIP OPTIONS

R N D 3 2 1	R N D 3 2 1	R N D 3 2 1	R N D 3 2 1	P R N D 3 2 1	P R N D 3 2 1	P R N D 3 2 1	PB R N D 3 2 1	PB R N D 3 2 1
1	2	3	4	5	6	7	8	9

CHART #4

PARK OPTIONS

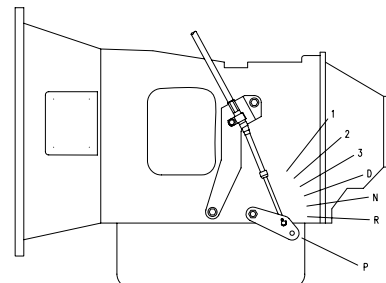
- 0 NO INTERLOCK OR SWITCH
- 1 PARK INTERLOCK ONLY (SOLENOID)
(POSITION STRIP #5-9 ONLY)
(HANGER BRACKET POSITION #7 ONLY)
- 2 PARK SWITCH ONLY
(POSITION STRIP #8-9 ONLY)
- 3 PARK INTERLOCK AND SWITCH
(POSITION STRIP #8-9 ONLY)
(HANGER BRACKET POSITION #7 ONLY)

CABLE 100-04333-LGTH

STANDARD PUSH-PULL CABLE.
3 INCH TRAVEL, CLAMP STYLE ENDS.
ALL STEEL PARTS ARE PLATED OR
STAINLESS STEEL.

TRANSMISSION KIT 000-59534-0000

ONE KIT FOR PARK AND NON-PARK OPTION.
ALL PARTS ARE PLATED STEEL.
INCLUDES ALL ATTACHMENT HARDWARE.
LEVER HOLES IDENTIFIED FOR PARK OPTION.



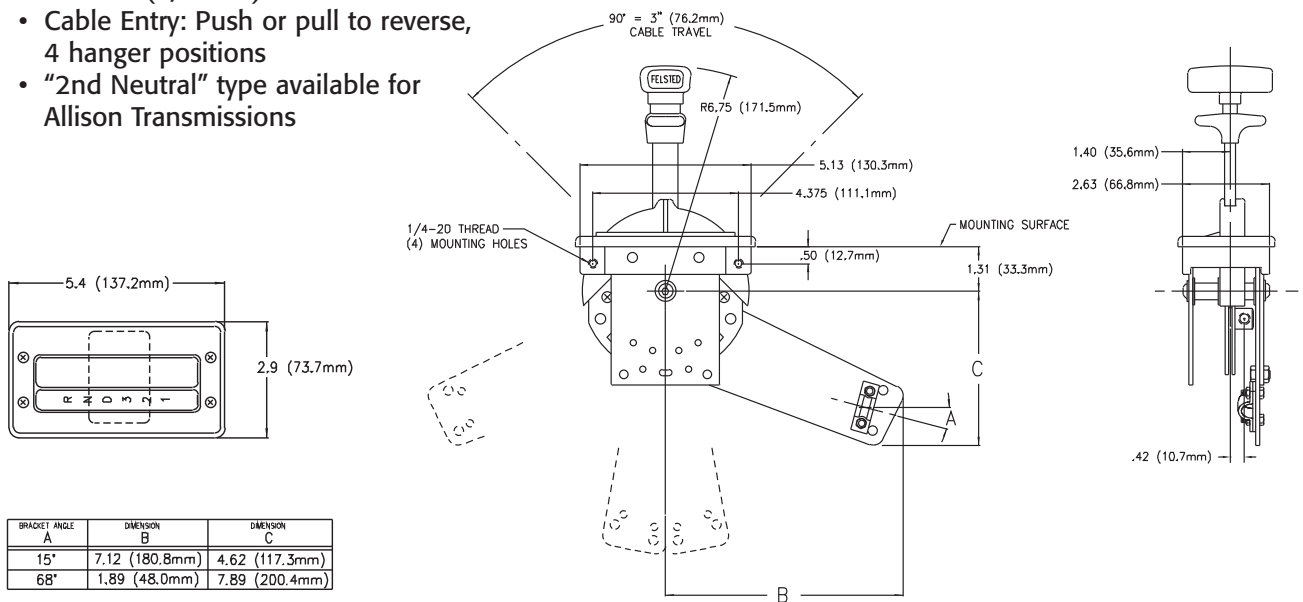
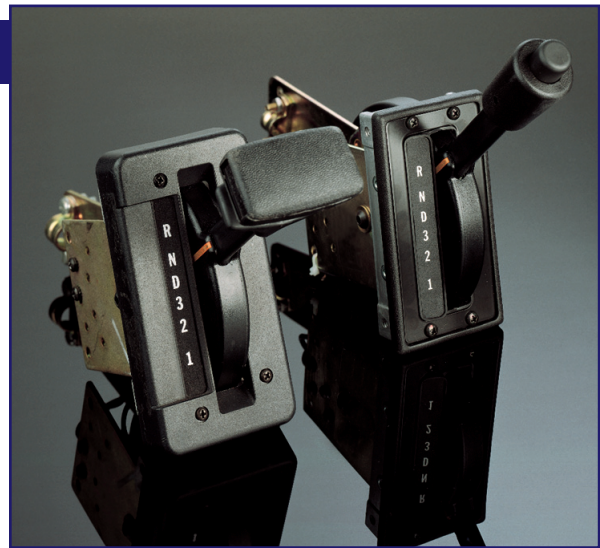
T-Handle and Push Button Shifters

The T-Handle and Push Button shifters are time proven designs for rugged operation in trucks and buses. They have flexible options available and the T-Handle can be custom assembled by many of our F.A.S.T. distributors.

 **Get it F.A.S.T.®!**

SPECIFICATIONS

- Lamp Illumination: 14 volts, orange lens
- Switches: ball type, see options for Neutral and/or Reverse
- Travel: 3 inches
- Cable Connection: 4 series (1/4-28) or 6 series (5/16-24)
- Cable Entry: Push or pull to reverse, 4 hanger positions
- "2nd Neutral" type available for Allison Transmissions



BRACKET ANGLE	DIMENSION B	DIMENSION C
15°	7.12 (180.8mm)	4.62 (117.3mm)
68°	1.89 (48.0mm)	7.89 (200.4mm)

Transmission Models		BASIC NUMBER			2nd Neutral P-B Shifter	Position Strip
		T-Handle	Push Button	Shift Inhibitor		
ALLISON	AT 540, AT 545, AT 543 MT 643, MT 647, MT 644 (MT 640)	55051	55751	56051	—	R,N,D,3,2,1
	MT 653 DR CLT 650 (MT 650)	55052	55752	56052	—	R,N,2-5,2-4,2,1
	MT 654 CR, MT 750 CRD CLT 654	55053	55753	56053	—	R,N,1-5,1-4,1-3,1-2,1
	HT 754 CR	—	—	56054	—	R,N,D,4,3,2,1
	V 730	55054	55754	—	—	R,N,D,2,1
	HT 750 DRD CL (B) T 750	55055	55755	56055	—	R,N,2-5,2-4,2-3,2,1
	HT 740, HT 740FS, HT 740RS	55056	55756	56056	—	R,N,D,3,2,1
	AT542N, AT545N AT1542N, AT1545N	—	—	—	55934 MECHANICAL USES CABLE	P-B,R,N,D,D3,D1
	AT542N, AT545N AT1542N, AT1545N	—	—	—	55946 ELECTRICAL	P-B,R,N,D,D3,D1

 Items listed within yellow field are Basic Part Numbers. Refer to these when ordering a shifter.

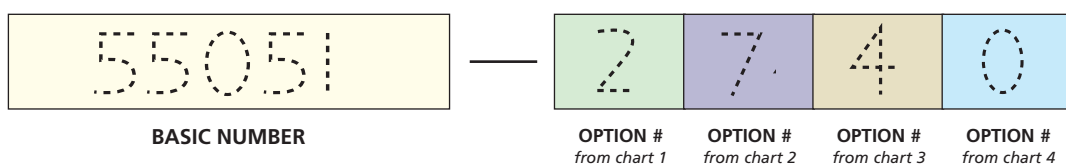
 See page 6 for Shift Inhibitor and 2nd Neutral P-B Shifters.

How to Order the Shifter

Ordering the exact shifter that meets your requirements is not difficult. Simply follow the instructions below to create your own part number. (Example: you are ordering basic part #55051 to fit your Allison transmission #MT 643. You desire the following configuration: Right-hand mount/reverse to front (Chart 1, Option #2); push to reverse/vertical cable hanger (Chart 2, Option #7); 4 Series Cable (Chart 3, Option #4); No Switches (Chart 4, Option #0). Your part number would be 55051-2740.)

1. Match your automatic transmission model to the basic part number. This is your BASIC NUMBER.
2. Refer to Charts 1 through 4 on this page for assembly configuration in order to meet vehicle and system requirements. (Not applicable to Shift Inhibitor and 2nd Neutral P-B Shifter.)
3. Follow the form below and enter the option number desired from each chart in the appropriate order.

EXAMPLE



CONTROL MOUNT/REVERSE POSITION OPTIONS		CHART 1	
OPTION #1 <small>Left-Hand Mount</small>	OPTION #2 <small>Right-Hand Mount</small>	OPTION #3 <small>Left-Hand Mount</small>	OPTION #4 <small>Right-Hand Mount</small>

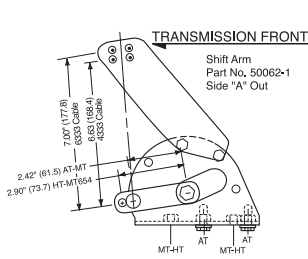
CABLE SERIES OPTIONS		CHART 3	
OPTION #4 <small>4 Series 1/4 - 28 Thread (.25 - 28)</small>	OPTION #6 <small>6 Series 5/16 - 24 Thread (.31 - 24)</small>		

ELECTRIC SWITCH OPTIONS		CHART 4	
OPTION #0 <small>No Switches</small>	OPTION #1 <small>Reverse Switch</small>		
OPTION #2 <small>Neutral Switch</small>	OPTION #3 <small>Reverse and Neutral Switch</small>		

CABLE HANGER BRACKET POSITION OPTIONS		CHART 2	
REVERSE TO FRONT - USE WITH CONTROL MOUNT OPTIONS 1 & 2		REVERSE TO REAR - USE WITH CONTROL MOUNT OPTIONS 3 & 4	
OPTION #1 <small>Cable PULLS Transmission Arm into REVERSE</small>	OPTION #5 <small>Cable PUSHES Transmission Arm into REVERSE</small>	OPTION #2 <small>Cable PUSHES Transmission Arm into REVERSE</small>	OPTION #6 <small>Cable PULLS Transmission Arm into REVERSE</small>
OPTION #3 <small>Cable PULLS Transmission Arm into REVERSE</small>	OPTION #7 <small>Cable PUSHES Transmission Arm into REVERSE</small>	OPTION #4 <small>Cable PUSHES Transmission Arm into REVERSE</small>	OPTION #8 <small>Cable PULLS Transmission Arm into REVERSE</small>

Transmission Connection Kits

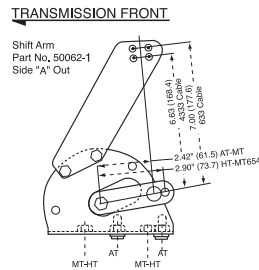
Transmission kits come complete with shift arm, transmission mounting bracket, cable hanger and required hardware. Connection kits are designed to fit any of the five most popular entry positions to the transmission shift arm. Refer to the following drawings to find the cable entry that best fits your vehicle requirements and shifter control positions (push to reverse, pull to reverse), then assemble the kit to match the installation required. Shown below are configurations that can be made from the Universal Kit. (Universal Kit #59005 includes all parts to assemble any 59004 and 59006 kit configuration.)



CONFIGURATION #1

Cable **PUSHES** Transmission Arm into REVERSE.

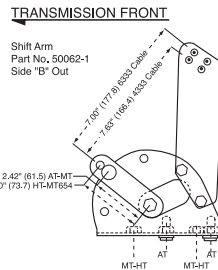
Use with Shifter Control Positions numbers 2, 4, 5, 7.
Cable 100-4333-L / 100-6333-L



CONFIGURATION #2

Cable **PULLS** Transmission Arm into REVERSE.

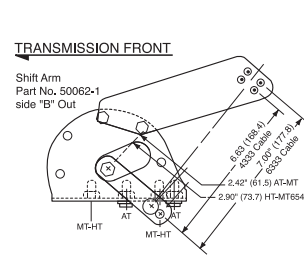
Use with Shifter Control Positions numbers 1, 3, 6, 8.
Cable 100-4333-L / 100-6333-L



CONFIGURATION #3

Cable **PUSHES** Transmission Arm into REVERSE.

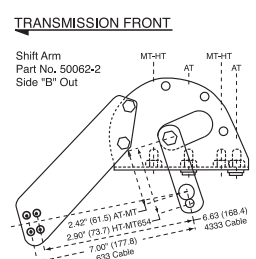
Use with Shifter Control Positions numbers 2, 4, 5, 7.
Cable 100-4333-L / 100-6333-L



CONFIGURATION #4

Cable **PULLS** Transmission Arm into REVERSE.

Use with Shifter Control Positions numbers 1, 3, 6, 8.
Cable 100-4333-L / 100-6333-L

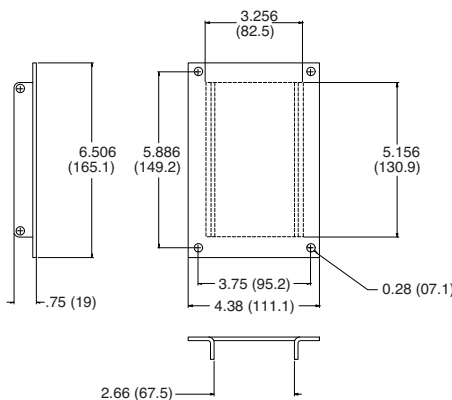


CONFIGURATION #5

Cable **PUSHES** Transmission Arm into REVERSE.

Use with Shifter Control Positions numbers 2, 4, 5, 7.
Cable 100-4333-L / 100-6333-L

Accessories



TRANSMISSION CONNECTION KITS

UNASSEMBLED UNIVERSAL KIT OIL PAN MOUNT

59004 4 Series
59006 6 Series
59005 4 and 6 Series
Hardware

Kits to be assembled in field to fit installation required.

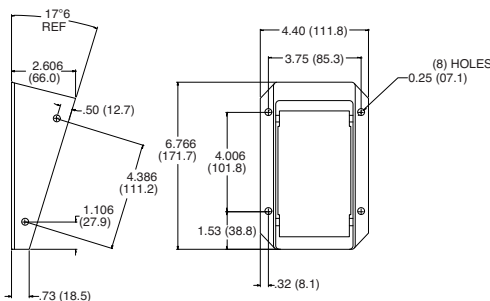
MACHINE PAD MOUNT

59369-1 4 Series
59369-2 6 Series

Mount to machine pad above the transmission shift arm. They do not mount to oil pan bolts as shown in diagrams above.

* HT Series, MT 654 with 4.5" oil pan.

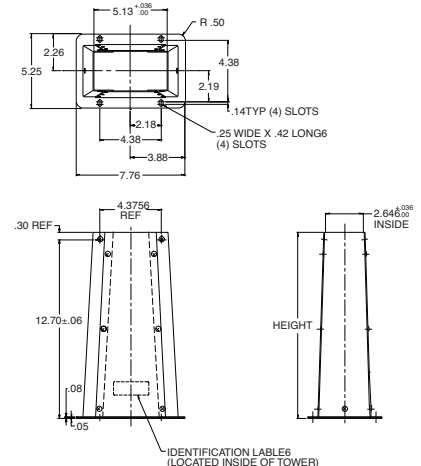
For refuse and HD applications.



MOUNTING WEDGE

59009

A cast aluminum wedge with a matte black epoxy finish. Raises the shifter to a 17° angle from desired mounting surface. Kit is complete with control mounting hardware. Use with cable hanger bracket in any position except #1 or #2.



MOUNTING TOWER

59000 (13")

59035 (9")

A prefabricated tower with a matte black epoxy finish. Features access panels on both sides for easy installation and adjustment. A rubber floor gasket is included with tower. Kit is complete with control mounting hardware. For use with cable hanger positions #3, 4, 7, and 8 ONLY!

MOUNTING FLANGE

59002

Made of prefabricated steel with a matte black epoxy finish. Simplifies a top mount installation and is perfect for vehicle conversions. Kit is complete with control mounting hardware. Use with cable hanger bracket in any position.

SWITCH AND PIN SET KIT

50036-1

SWITCH SET

50036-2

PIN SET

50036-3

FINGER RELEASE KIT

59193-1

T-HANDLE KIT

59228

This product combines the strength and reliability of the T-Handle Shifter with the latest in manufacturing technologies to produce a high value control system for our customers.

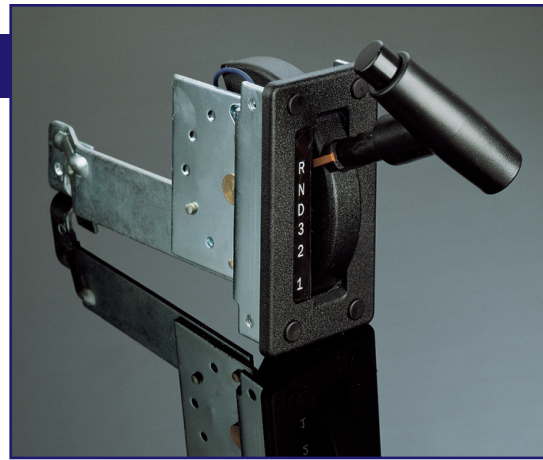
As an added feature, we have incorporated a quick-connect cable mounting system into this control. Utilizing a clamp built into the cable mounting bracket, the assembler needs only a standard 1/4 x 1" bolt and locknut to attach the cable to the control. This allows faster assembly of the cable, while using common mounting hardware available anywhere.

STANDARD FEATURES:

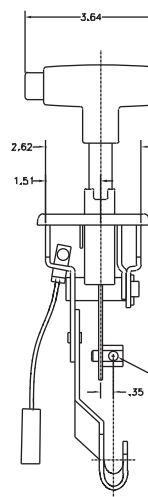
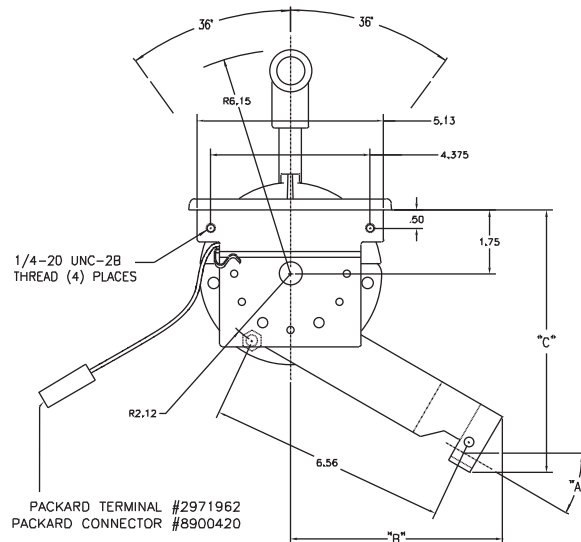
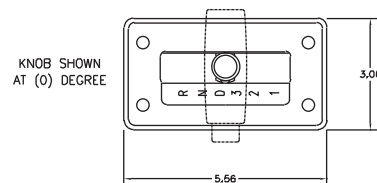
- Steel chassis and handle assembly
- Black E-coat finish on handle and zinc plating on other metal parts for corrosion protection
- Black textured polymer knob and trim covers
- Four 1/4-20 threaded mounting holes
- All detents are positive locking (no ramping between detents)
- Requires 4 series, 3" travel cable with clamp type hub and 1/4-28 rod threads
- Maximum 2-1/2" of actual cable travel produced
- Built-in cable clamp requires a 1/4 x 1" bolt w/locknuts: Kit #NG0016-1
- Unthreaded pivot for easy cable hook-up

AVAILABLE CONFIGURATIONS:

- Right- or left-hand mounting
- Push or pull to reverse
- Top mounting plate available
- 14 or 28 VDC illumination, single or dual (ground included) wire leads
- Electrical switches – contact factory
- Side push button factory preset at 0 or 45 degrees
- Cable bracket angle factory preset at 0, 30, 60, or 90 degrees.
- Currently available for Allison AT545, MT643, MT653DR, MT654CR, HT740, HT750CR, HT750DR, HT754CR
- There are no charts to build a part number with this style control. Consult factory with specifications to receive recommendation and part number.



KNOB SHOWN AT (45) DEGREE



CABLE BRACKET DIMENSIONS		
"A" ANGLE	"B" DIM	"C" DIM
0	7.00	4.01
30	5.83	7.21
60	3.09	8.94
90	2.26	8.75

4 SERIES CABLE MOUNTING
1/4" BOLT (1" LONG) AND LOCKNUT
REQUIRED, TORQUE 45-55 IN-LBS.
USE KIT NG0016-1

Shift Inhibitor

The Shift Inhibitor is designed to prevent costly drivetrain damage due to high RPM shifting.

Automatic transmissions in refuse packers and similar heavy-duty vehicles, especially those involved in frequent stop-and-go PTO operations where engine speeds above idle are required, can suffer major abuse from improper shifting. If the driver does not wait until engine RPMs return to idle before shifting, high inertial loads can be forced upon the transmission and drivetrain, potentially leading to extensive and expensive damage.

The Shift Inhibitor System combats this by delaying the shifting process until the engine has returned to idle speed. It is a pneumatic-mechanical system and complies with the Allison® Transmission Watch Notice #65, requiring a neutral to range shift inhibitor system.

SYSTEM COMPONENTS:

- Shift inhibitor control
- Engine speed sensor*
- Speed switch*
- Airbrake Tubing*
- Push-Pull Cable
- Fittings*
- Transmission Connection Kit

* These items are not supplied.
Use this bulletin to determine the shifter part number, then consult with Sales/Engineering to create the correct system for your application.

2nd Neutral P-B Shifter

This control is used on Allison's AT transmissions that have a 2nd neutral position beyond reverse and no internal parking pawl mechanism. Movement of the shift selector from reverse to the "PB" position will shift the transmission into 2nd neutral and actuate the vehicle Spring Parking Brake system control.

In the mechanical control, brake actuation is accomplished through a push/pull cable. In the electrical control, brake actuation is accomplished through an electrical switch.

The shift position indicator reads "PB R N D 3 D1".

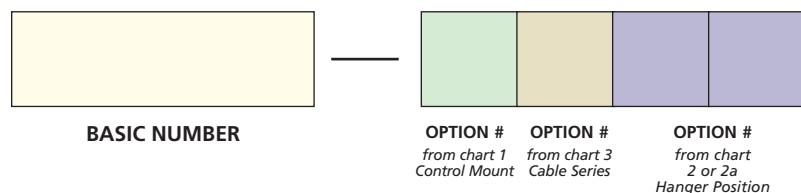
SPECIFICATIONS:

- Rugged steel construction.
- Four 1/4-20 threaded mounting holes.
- 14 volt illumination, single wire with chassis ground.
- Uses a 4 series High Performance transmission shift cable.
- Detents are ramped "D1" thru "N" on upshift and "R" to "N" on downshift.
- Mechanical brake actuation cable is 3 series. Cable travel is .74" from "R" to "PB".
- Electrical brake actuation switch has contacts closed in all positions "D1" thru "R". Switch contacts open in "PB" position only. Electrical load not to exceed 1 amp inductive @ 13 VDC.

How to Order the Shift Inhibitor and 2nd Neutral P-B Shifter:

1. Select proper BASIC NUMBER box from page 2 of this brochure.
2. Select position from Chart 1 on page 3.
3. Select Cable Series from Chart 3 on page 3.
4. Select Hanger Bracket Position from Chart 2 on page 3 or Chart 2a right. Note: If using options from chart 2 on page 3, place a "0" prefix with the single digit in box below.

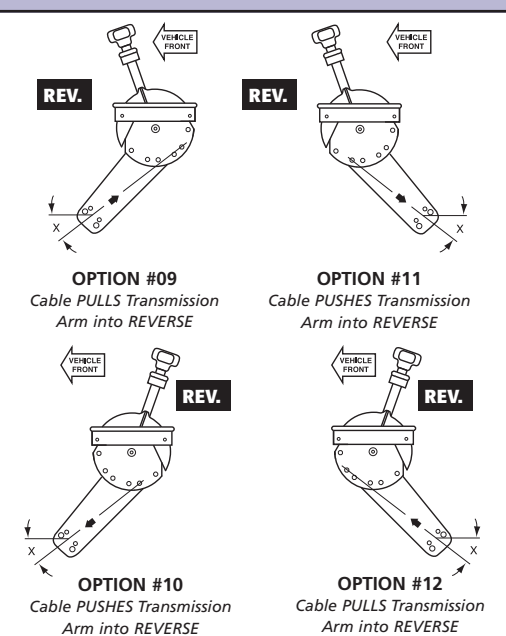
NOTE: These shifters offer 4 positions NOT available with the standard T-handle shifters. They are shown as additional options on this page.



These positions are available only for Shift Inhibitor and 2nd Neutral P-B Shifter.

MORE CABLE HANGER BRACKET CHART 2a POSITION OPTIONS

X = 36° for shift inhibitor X = 45° for 2nd neutral shifter



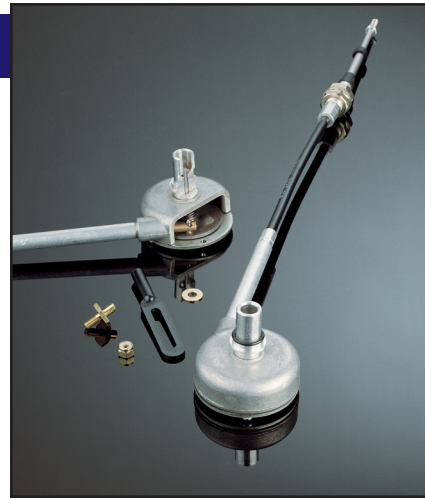
Modulators

The modulator cable control is designed to send the engine throttle rate (on a mechanically governed engine) to the hydraulic control valve in the transmission. It will fit Allison™ Transmission models AT500, MT600, HT700, V730, CLT650, and CLBT750 series.

 **Get it F.A.S.T.®!**

SPECIFICATIONS:

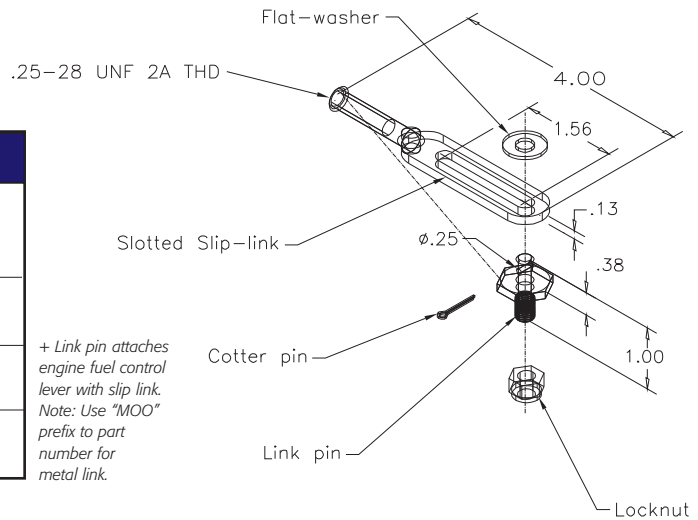
- Control Cable is polymer lined rated at 300° F (149° C)
- 4 inch bend radii minimum
- Built-in spring returns to idle
- Pull function recommended, but push also available
- Can be locally assembled via F.A.S.T. cable assembly distributors.



Modulator Slip Link Kit (shown at right)

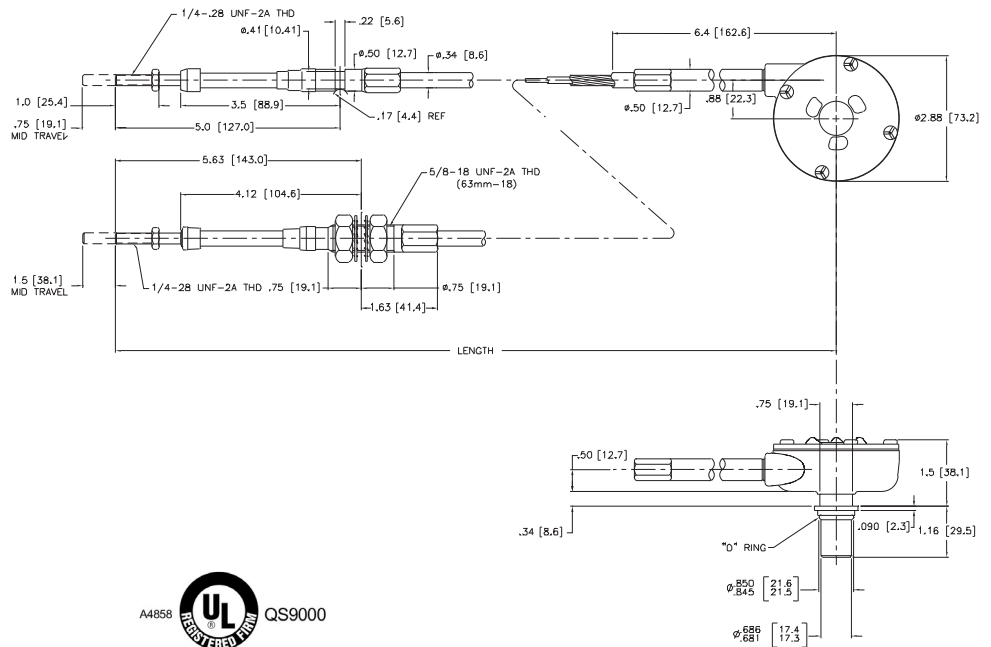
The Slip-Link kit includes the necessary hardware for complete installation of the kit to the engine fuel control lever. Kit includes a slotted slip-link, link pin, flatwasher, cotter pin and locknut. To order, see chart below.

Polymer Link Part No.	Thread Size	For Use with Modulator Part No.
59049-1	(3 Series) 10-32UNF-2A THD	2124, 2179, 2180
59049-2	(4 Series) 2528UNF-2ATHD	2220, 2225, 2230, 2235



Pull Type	Description	Transmission
2124	Clamp	FMX
2130	Bulkhead	Allison
2179	Clamp	C-6
2180	Bulkhead	C-6
2182	Bulkhead	Hydramatic
2183	Clamp	Hydramatic
2220	Bulkhead	Allison
2230	Clamp	Allison

Push Type	Description	Transmission
2225	Bulkhead	Allison
2235	Clamp	Allison



Specifications subject to change without notice.

Orscheln Products, LLC • 8351 County Road 245 • P.O. Box 68 • Holmesville, Ohio 44633-9771
 Phone 330-279-3711 • www.orschelnproducts.com • Fax 330-279-3791
 Orscheln Europe • Webb Ellis Industrial Park • Unit 15, Wood Street • Rugby, England CV21 2NP
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ORSCHELN®

Park Brake Levers & Cables Catalog 42 of 78



PARKING BRAKE LEVERS

Orscheln hand levers are designed on the principle of variable mechanical advantage, and therefore, variable hand effort. During the initial movement of the lever from the “off” to the “on” position, there is great linear movement in comparison to the output effort. As the lever approaches the “on” position, the output effort becomes greater in comparison to the linear movement. As the lever passes over center, or toggle position, the mechanical advantage is theoretically infinite.

Orscheln hand levers also provide a screw-type adjustment feature which allows the operator to make system adjustments. This is accomplished by simply turning the adjustment knob on the lever handle. Orscheln’s standard levers are shown in this section. Using these standard levers where possible can generally provide shorter lead-times and lower costs. When custom designs are needed, we offer many options and variations. The key characteristics to remember when designing a lever system include safety, required lever output, mounting location, operator access, and handle effort. Mounting bracket design should be determined by travel, cable clamp pattern, and mounting preference.

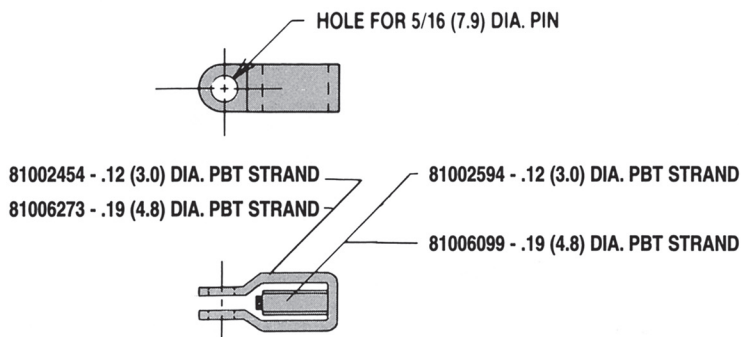
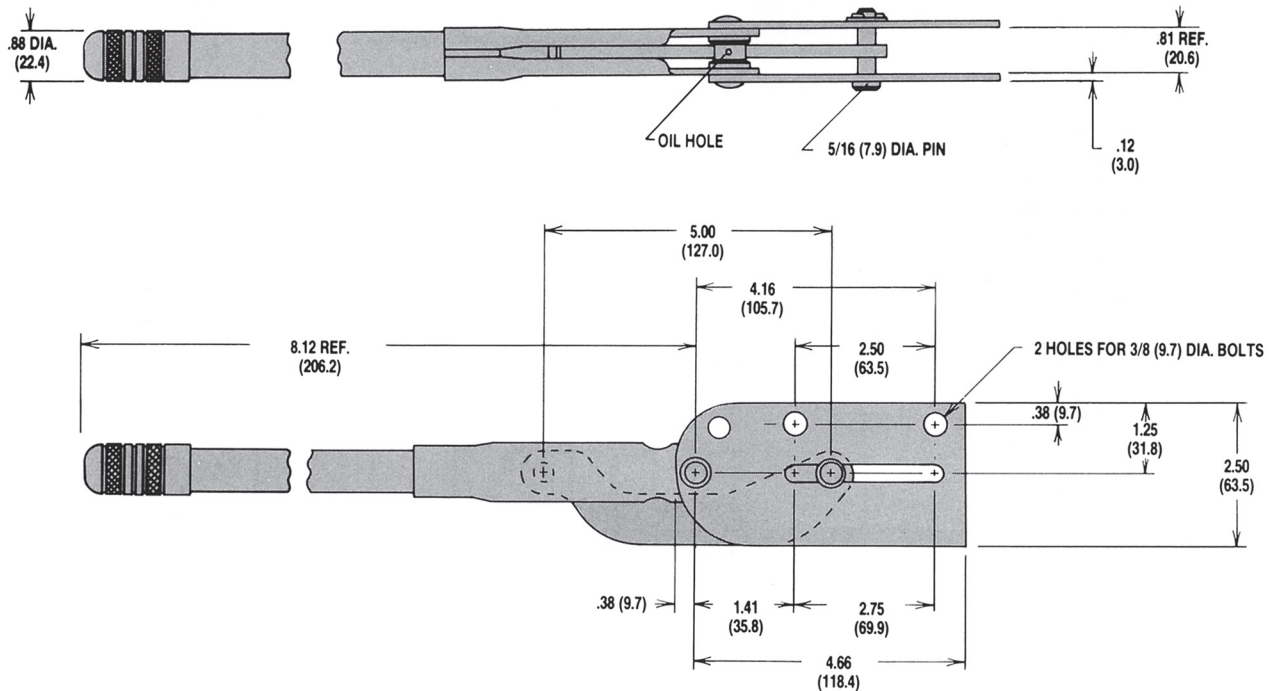


HAND LEVERS

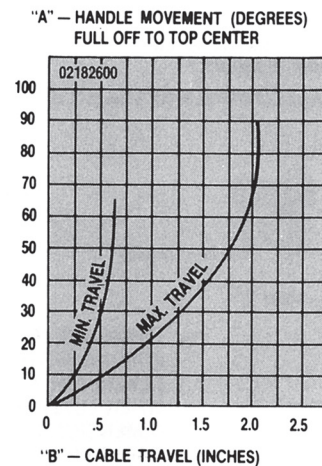
ORSCHELN LEVER NO. 02182600

Recommended Applications and Features:

Side Mount with Mounting Holes for Frame or Other Areas where Mounting Surface Structure will Support Brake Load. Usually Used with Rod Direct to Brake. Spacers Supplied.



THESE ARE RECOMMENDED CABLE PARTS FOR CONNECTING A CABLE TO THIS LEVER ASSEMBLY.

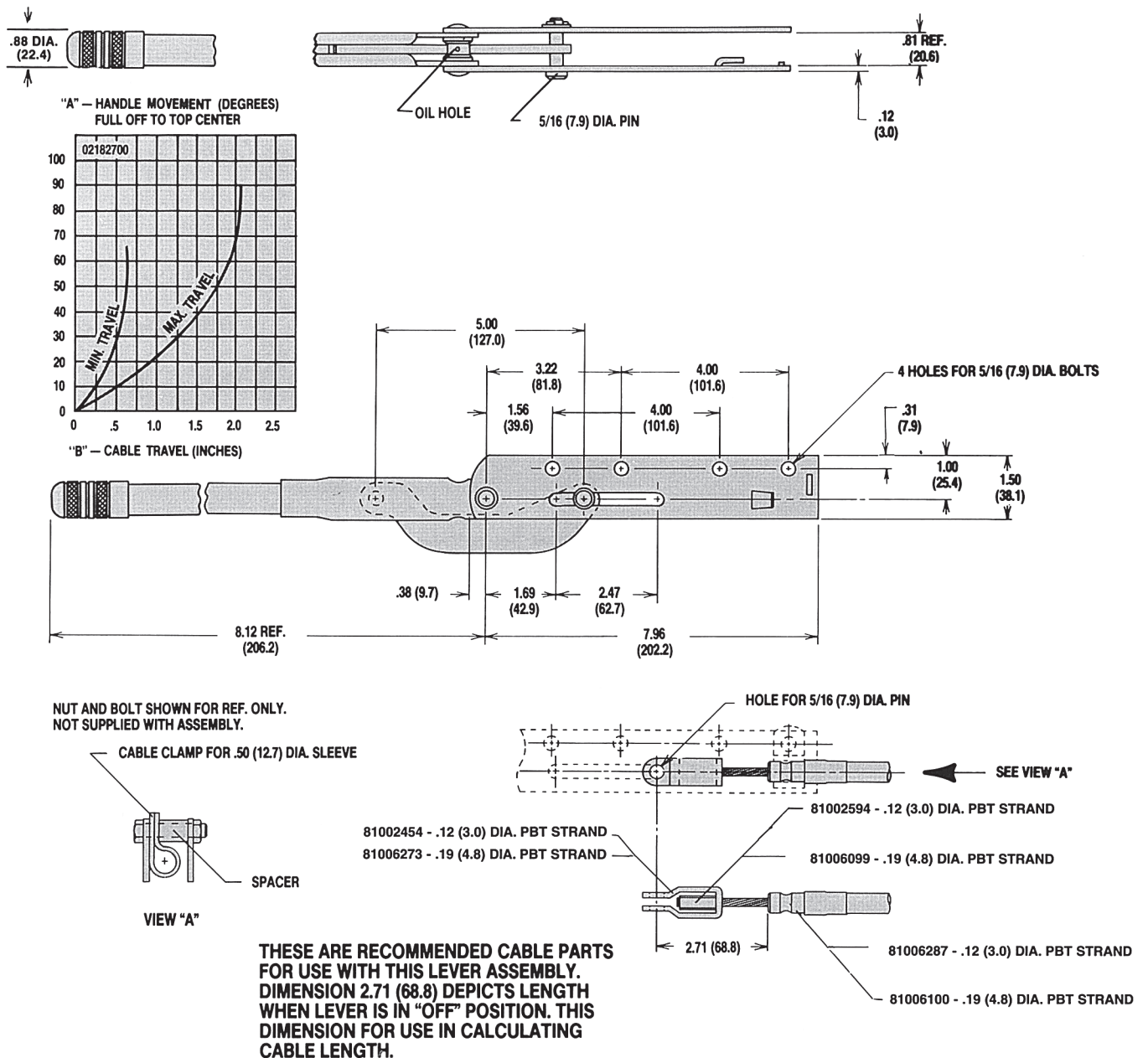




ORSCHELN LEVER NO. 02182700

Recommended Applications and Features:

Side Mount with Alternate Sets of Mounting Holes for Cowl, Instrument Panel, Seat Riser and Frame Installations. Use with One Cable. With Mounting Hole for Cable Clamp. Clamp and Spacers Supplied.





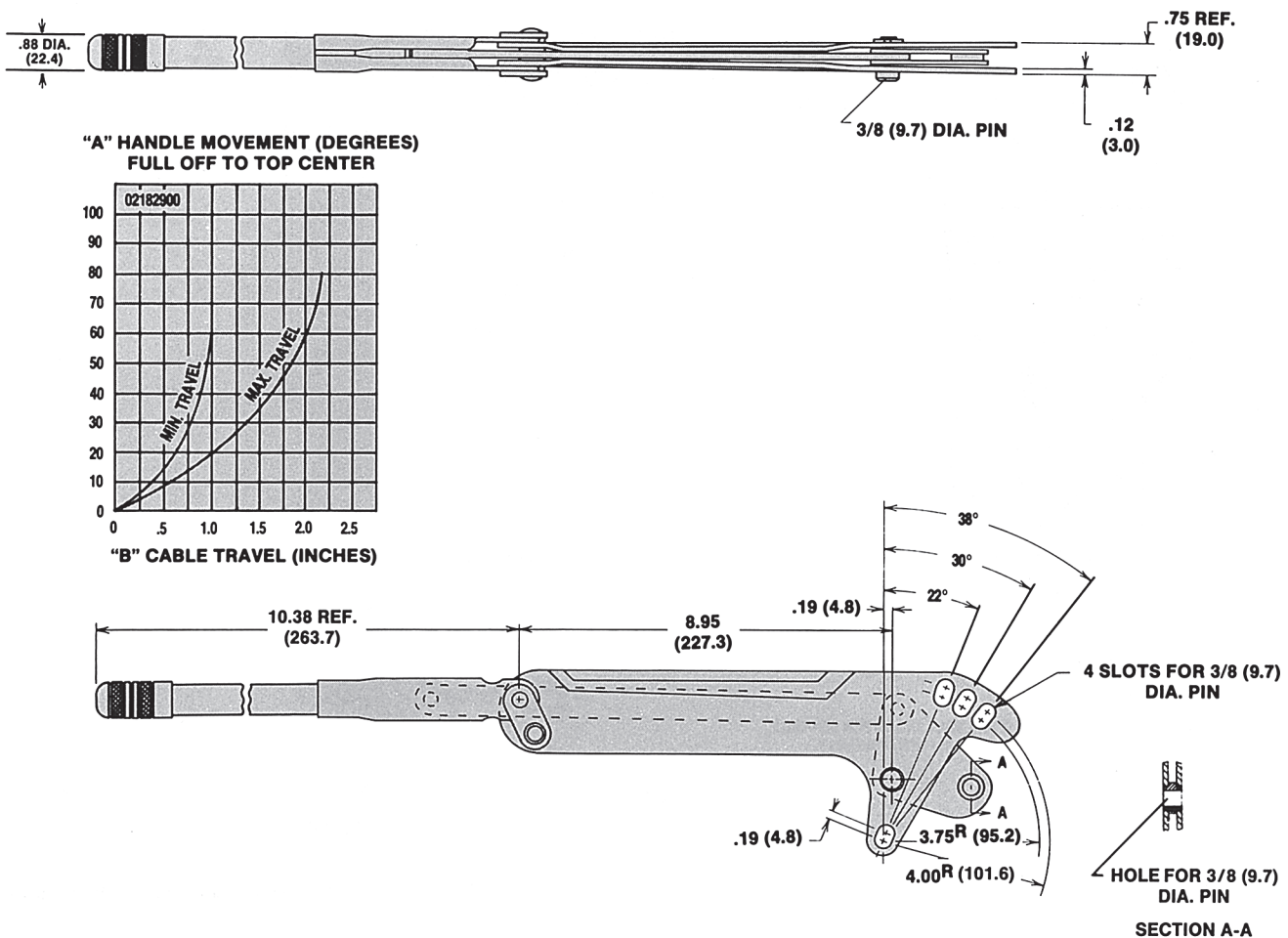
HAND LEVERS

ORSCHELN LEVER NO. 02182900

Recommended Applications and Features:

**Transmission Mount Type for Mounting on Transmission Bosses, Frames, etc.
Bellcrank Changes Travel 90 Degrees without Load Loss.**

**Normally Used with Rod, can be Used with Cable by Attaching Strand with Clevis to
Bellcrank and Conduit to Common Mounting Surface. Mounting Spacers Supplied.**

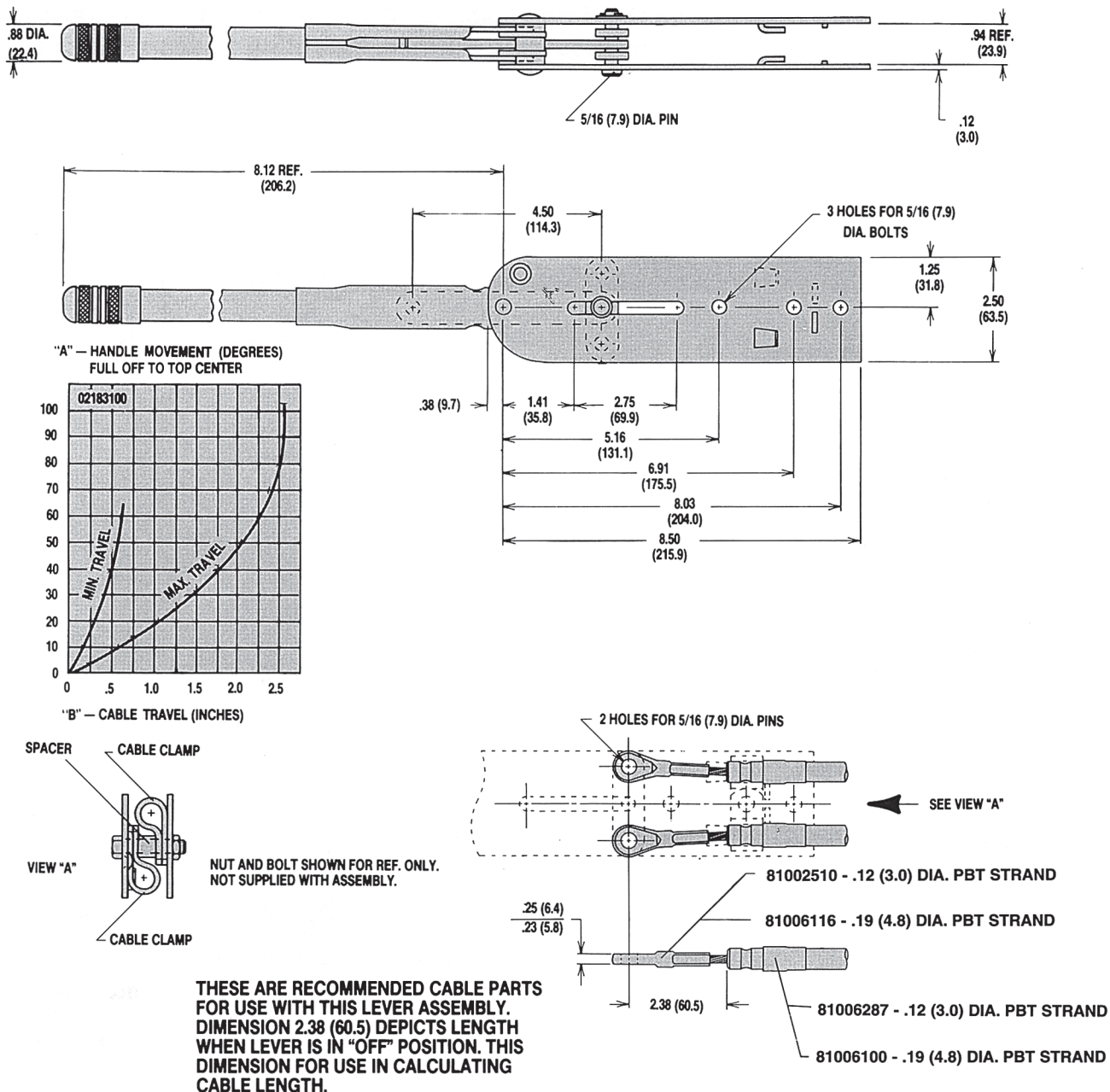




ORSCHELN LEVER NO. 02183100

Recommended Applications and Features:

Side Mount for Cowl Instrument Panel, Seat Riser and Frame Installation.
For Use with 2 Cables. With Mounting Holes for Cable Clamps.
Equalizers, Pins, Clamps and Spacers Supplied.

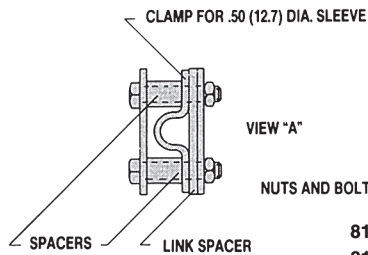
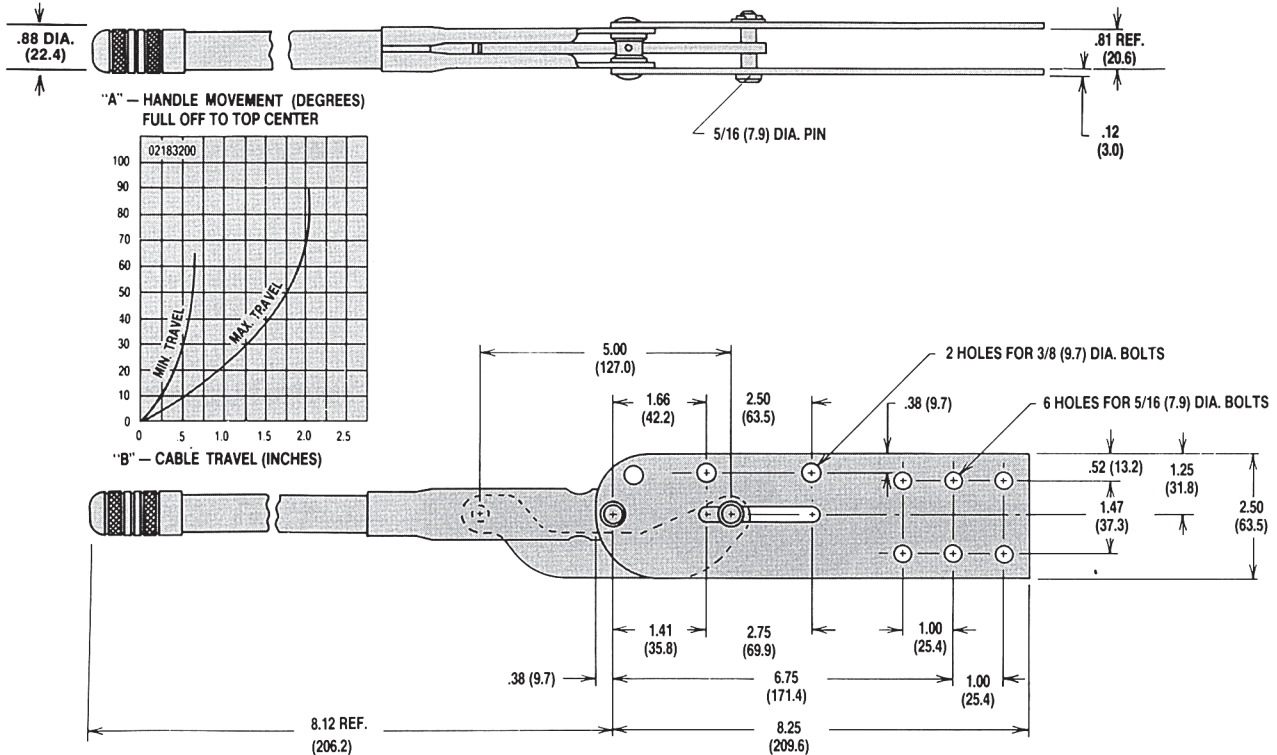




ORSCHELN LEVER NO. 02183200

Recommended Applications and Features:

Side Mount for Cowl, Instrument Panel, Seat Riser and Frame Installations.
Use with One Cable. Supplied with alternate sets of cable clamp holes.
Clamp and spacers supplied.



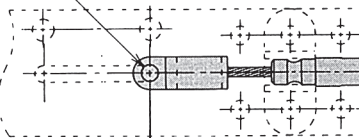
VIEW "A"

NUTS AND BOLTS SHOWN FOR REF. ONLY

81002454 - .12 (3.0) DIA. PBT STRAND
81006273 - .19 (4.8) DIA. PBT STRAND

THESE ARE RECOMMENDED CABLE PARTS FOR USE WITH THIS LEVER ASSEMBLY. DIMENSIONS 2.21 (56.1) AND 3.21 (81.5) DEPICT LENGTHS WHEN LEVER IS IN "OFF" POSITION. THE 1.56 (39.6) (CLEVIS LENGTH) DIMENSION WILL NOT ALLOW THE LEVER TO BE PUT IN FULL "OFF" POSITION. THIS WILL REDUCE THE NET TRAVEL OF THE LEVER. THE ABOVE DIMENSIONS ARE USED TO CALCULATE CABLE LENGTH.

HOLE FOR 5/16 (7.9) DIA. PIN



SEE VIEW "A"

81002594 - .12 (3.0) DIA. PBT STRAND

81006099 - .19 (4.8) DIA. PBT STRAND



1.56 (39.6)
2.21 (56.1)
3.21 (81.5)

81006287 - .12 (3.0) DIA. PBT STRAND

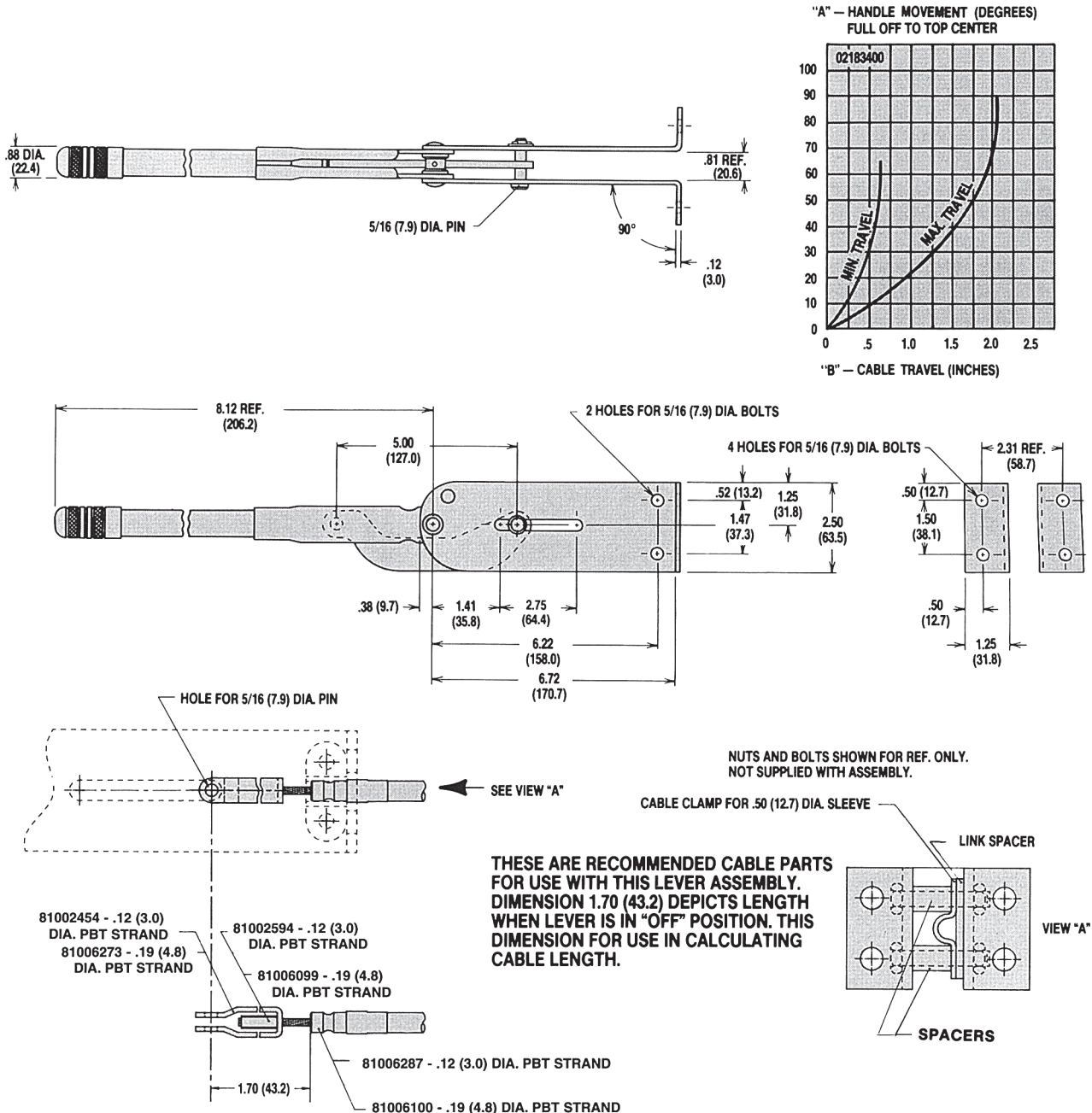
81006100 - .19 (4.8) DIA. PBT STRAND



ORSCHELN LEVER NO. 02183400

Recommended Applications and Features:

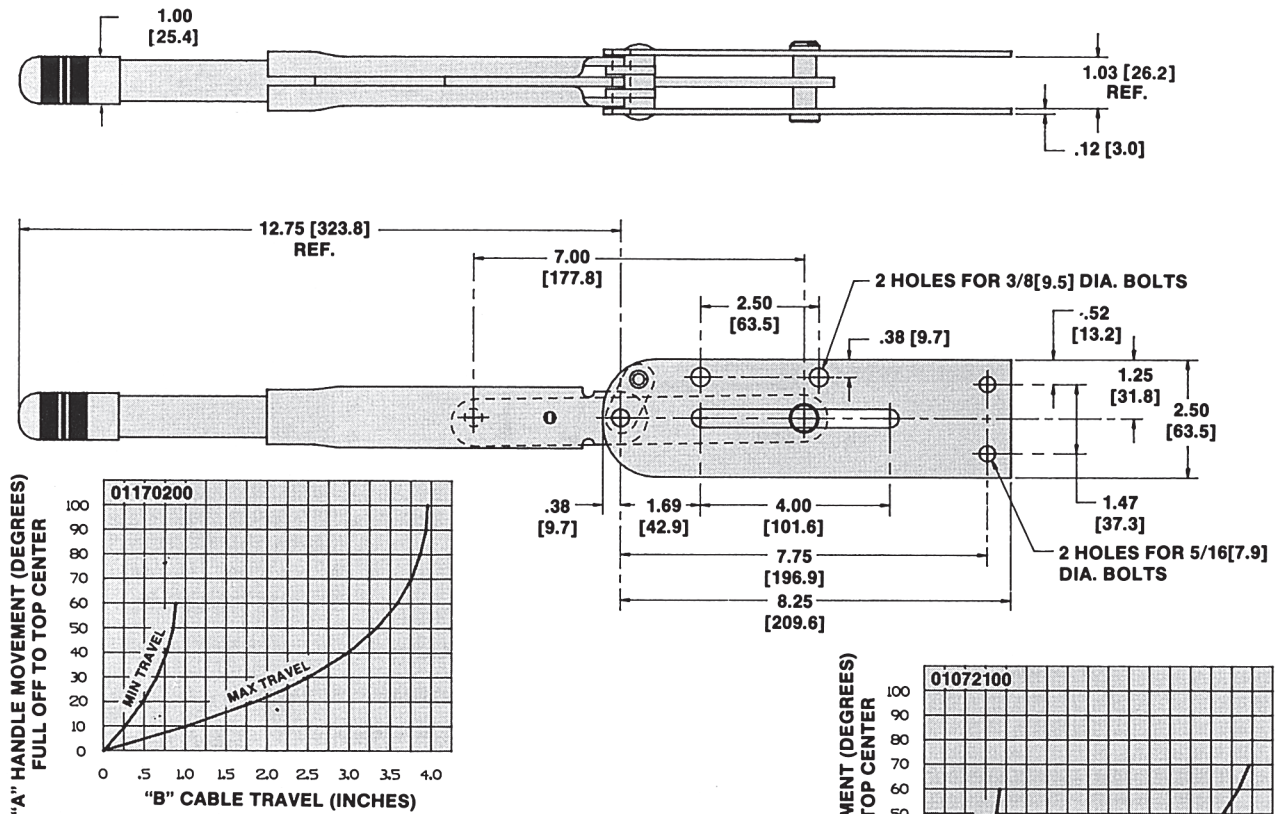
Flange Mount for Bulkhead, Island or Floor Installation. Use with One Cable. With Mounting Holes for Cable Clamp. Clamp and Spacers Supplied.



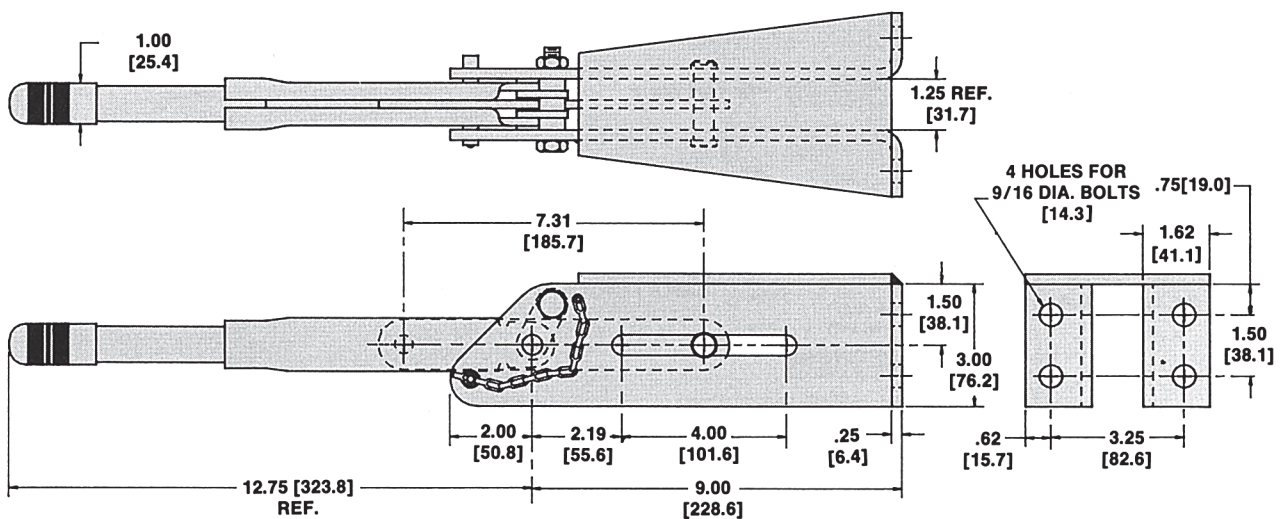
HAND LEVERS



“WEST COAST” LEVER 01170200

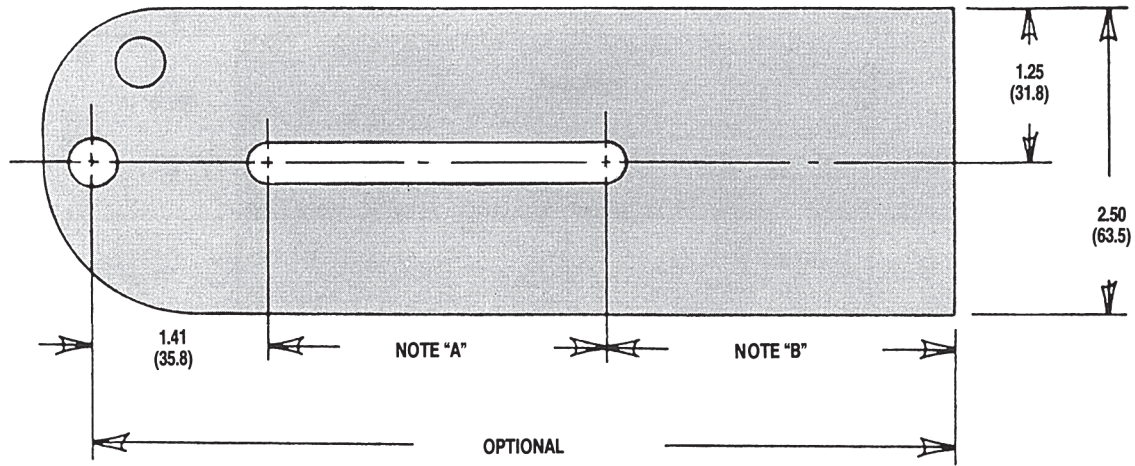


HEAVY DUTY “WEST COAST” LEVER 01072100





MOUNTING BRACKETS

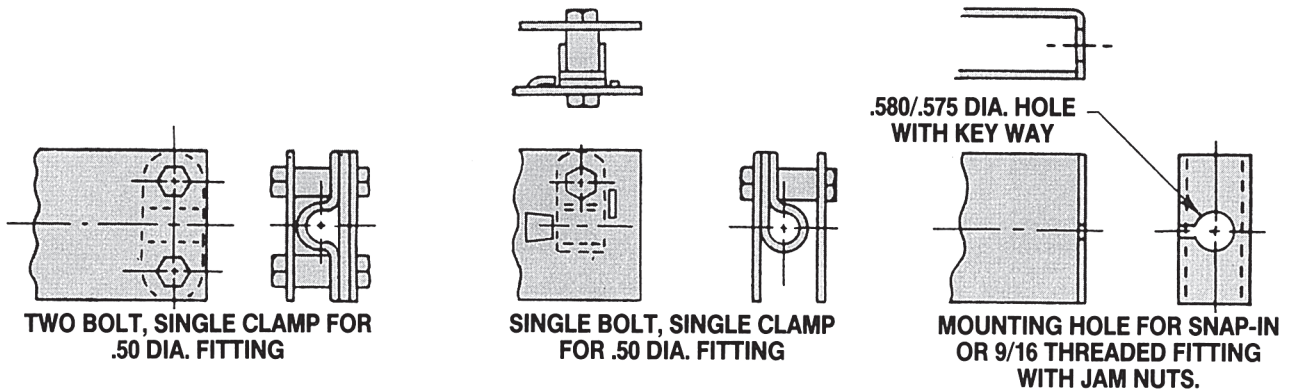


NOTE "A": SLOT OPTIONS

- 1) WITH STANDARD HANDLE, SLOT FOR 5/16 DIA. PIN, 2.75 LONG
- 2) WITH "WEST COAST" HANDLE, SLOT FOR 3/8 DIA. PIN, 4.00 LONG

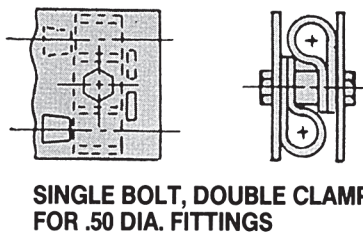
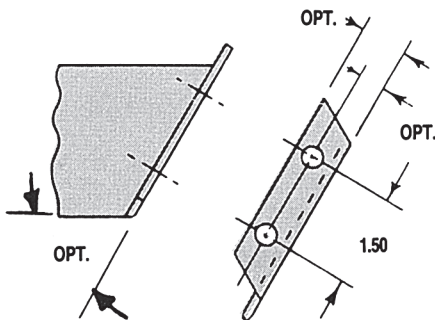
NOTE "B" CUSTOMER OPTION

THIS PORTION OF THE BRACKET IS FOR CUSTOMER OPTIONS. MOUNTING HOLES CAN BE LOCATED AT ANY POINT. STANDARD BRACKET WILL BE USED WHENEVER POSSIBLE WITH CUSTOMER APPROVAL.

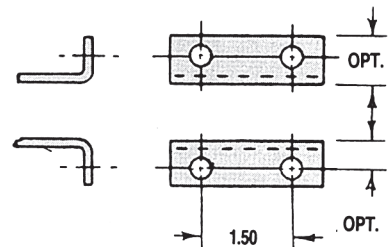


NOTE: CLAMPS AND SPACERS ARE PROVIDED AS ADDITIONAL PARTS WITH LEVER, NUTS AND BOLTS ARE SHOWN AS REF. ONLY.

ANGULAR FLANGE AVAILABLE WITH ANY SINGLE OR DOUBLE CLAMP PATTERN

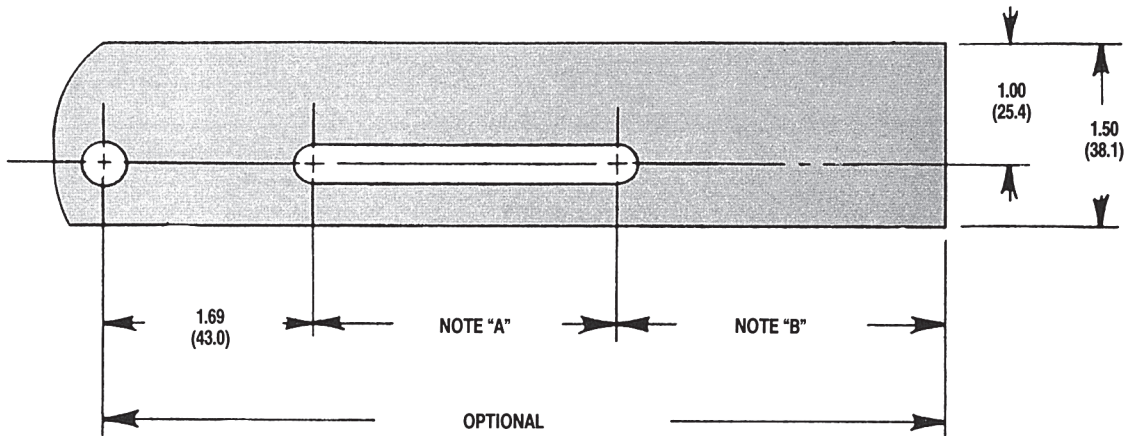


90 DEGREE FLANGE AVAILABLE WITH ANY SINGLE OR DOUBLE CLAMP PATTERN





MOUNTING BRACKETS

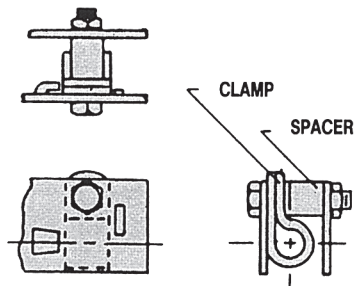


NOTE "A": SLOT OPTIONS

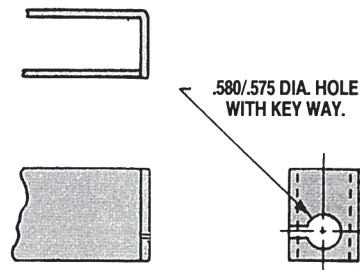
1) WITH STANDARD HANDLE, SLOT FOR 5/16 DIA. PIN, 2.47 LONG

NOTE "B": CUSTOMER OPTION

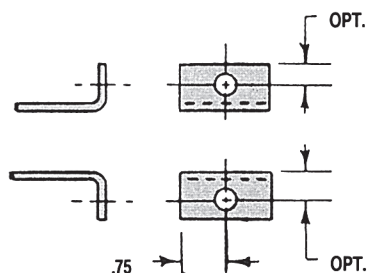
THIS PORTION OF THE BRACKET IS FOR CUSTOMER OPTIONS.
MOUNTING HOLES CAN BE LOCATED AT ANY POINT. STANDARD BRACKET WILL
BE USED WHENEVER POSSIBLE WITH CUSTOMER APPROVAL.



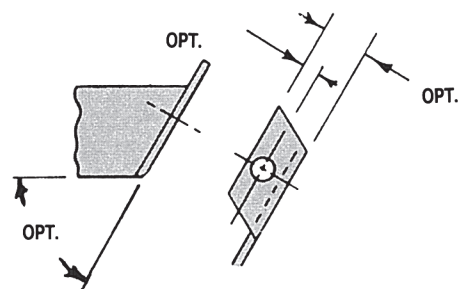
SINGLE CLAMP FOR .50 DIA. FITTING
CLAMP AND SPACER ARE ADDITIONAL PARTS
WITH LEVER.
NUT AND BOLT ARE SHOWN FOR REF. ONLY



MOUNTING HOLE FOR SNAP-IN OR
9/16 THREADED FITTING WITH JAM NUTS



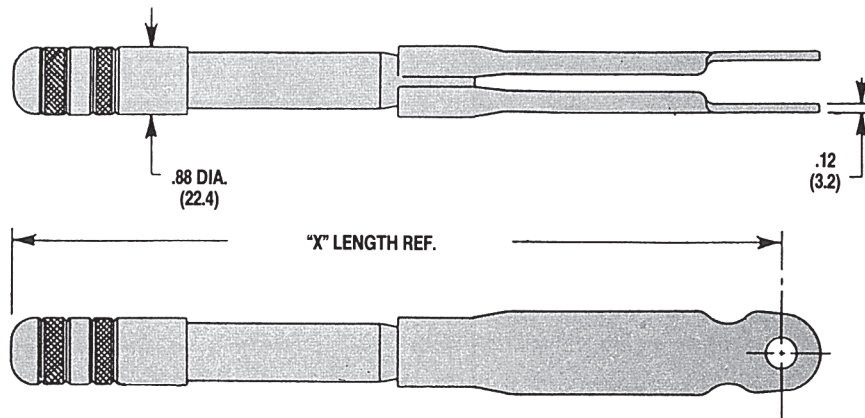
90 DEGREE FLANGE
AVAILABLE WITH SINGLE CLAMP



ANGULAR FLANGE
AVAILABLE WITH SINGLE CLAMP

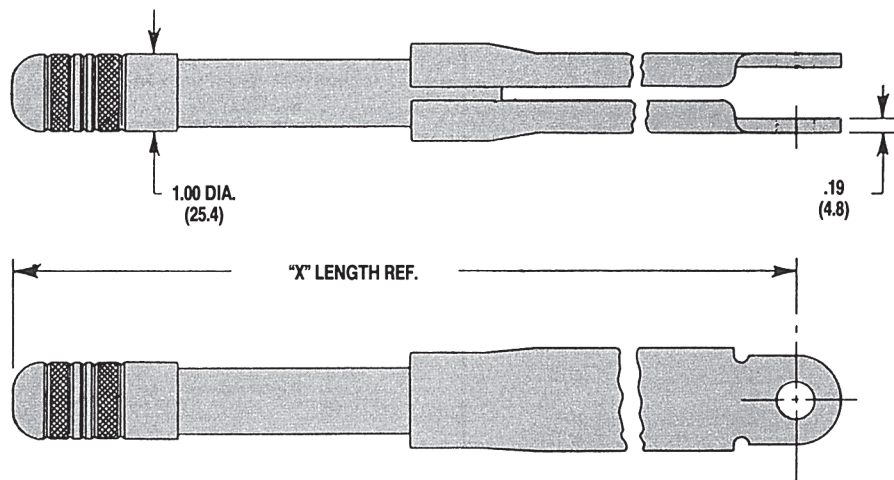


HANDLE OPTIONS



STANDARD LEVER HANDLE:

1. MAX. LEVER OUTPUT 3000 LBS. (13.3 KN)
2. STANDARD LENGTHS "X":
 - 8.12 (206)
 - 8.94 (227)
 - 9.88 (251)
 - 10.38 (264)
 - 12.00 (305)
3. ADJUSTMENT KNOB IS FRICTION CONTROLLED
4. RECOMMENDED USAGE: FORK LIFTS, ALL SIZES
TRUCK TRACTOR
LIGHT TRAILERS 3000 LBS. G.V.W.
LIGHT INDUSTRIAL EQUIPMENT



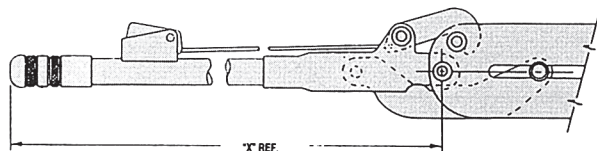
"WEST COAST" LEVER HANDLE

1. MAX. LEVER OUTPUT 4000 LBS. (17.8KN)
2. STANDARD LENGTHS:
 - 11.12 (282)
 - 12.75 (324)
 - 14.00 (356)
3. ADJUSTMENT KNOB IS FRICTION CONTROLLED
4. RECOMMENDED USAGE: HEAVY CONSTRUCTION EQUIPMENT

HAND LEVERS

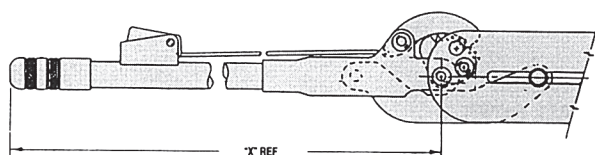


LEVER LOCK OPTIONS



SAFETY HOOK OPTION WITH STANDARD HANDLE

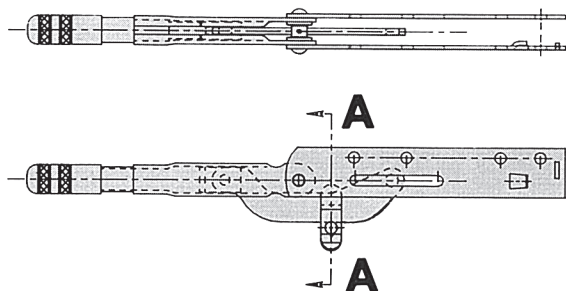
HANDLE LENGTHS "X"
9.88 (251)
10.38 (264)
12.00 (305)



RATCHET AND PAWL OPTION WITH STANDARD HANDLE

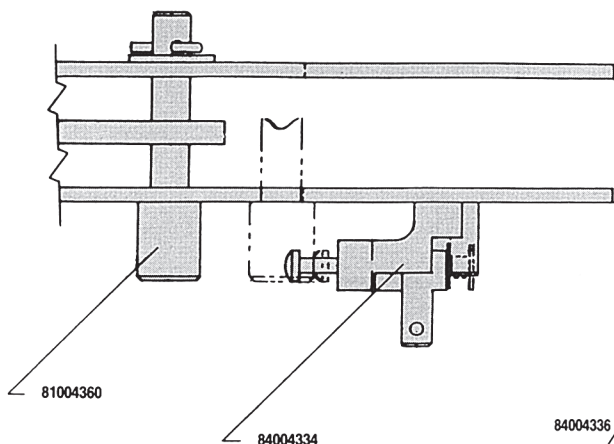
HANDLE LENGTHS "X"
9.88 (251)
10.38 (264)
12.00 (305)

PROVISION FOR PADLOCK



SEC. A - A

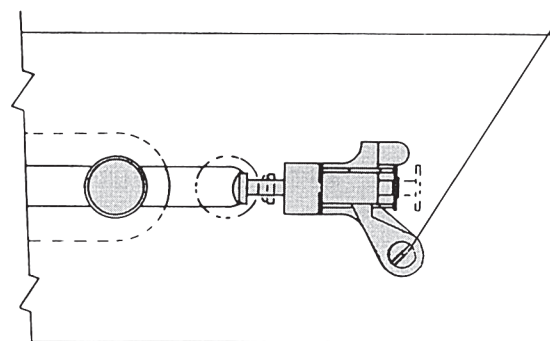
LIGHT SWITCH OPTIONS



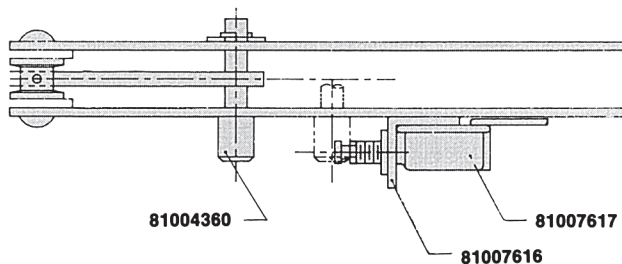
81004360

84004334

84004336



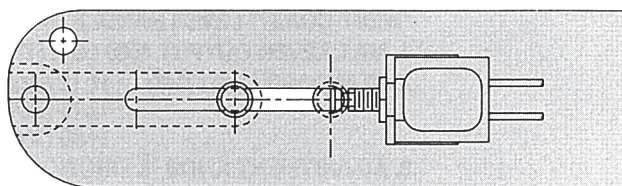
OPTION: "BRAKE ON" LIGHT SWITCH
NORMALLY ON
NOT RECOMMENDED FOR USE IN HOSTILE ENVIRONMENTS



81004360

81007617

81007616



OPTION: "BRAKE ON" LIGHT SWITCH
NORMALLY ON
WEATHER RESISTANT



**OPTION 1
FINGER RELEASE
(SHORT PEDAL ONLY)**

12.12
(307.8)

7.26
(184.3)

**STANDARD RELEASE
WITH OPTIONAL REMOTE
RELEASE ROD ASSEMBLY**

9.00
(228.6)

5.00
(127.0)

OFF POSITION

5.12
(130.0)

1.50 TRAVEL

**3 MTNG. HOLES
FOR 5/16
(8 mm) BOLTS**

**FULL
APPLIED POSITION**

4.00
(101.6)

1.00 TRAVEL

5.38
(136.7)

2.50
(63.5)

5.12
(130.0)

5.06
(128.5)

FULL APPLIED POSITION

5.75
(146.0)

**CONDUIT MTNG. HOLE
FOR 0.56 (14mm)
FITTINGS**

**OPTION:
"BRAKE-ON"
LIGHT SWITCH**

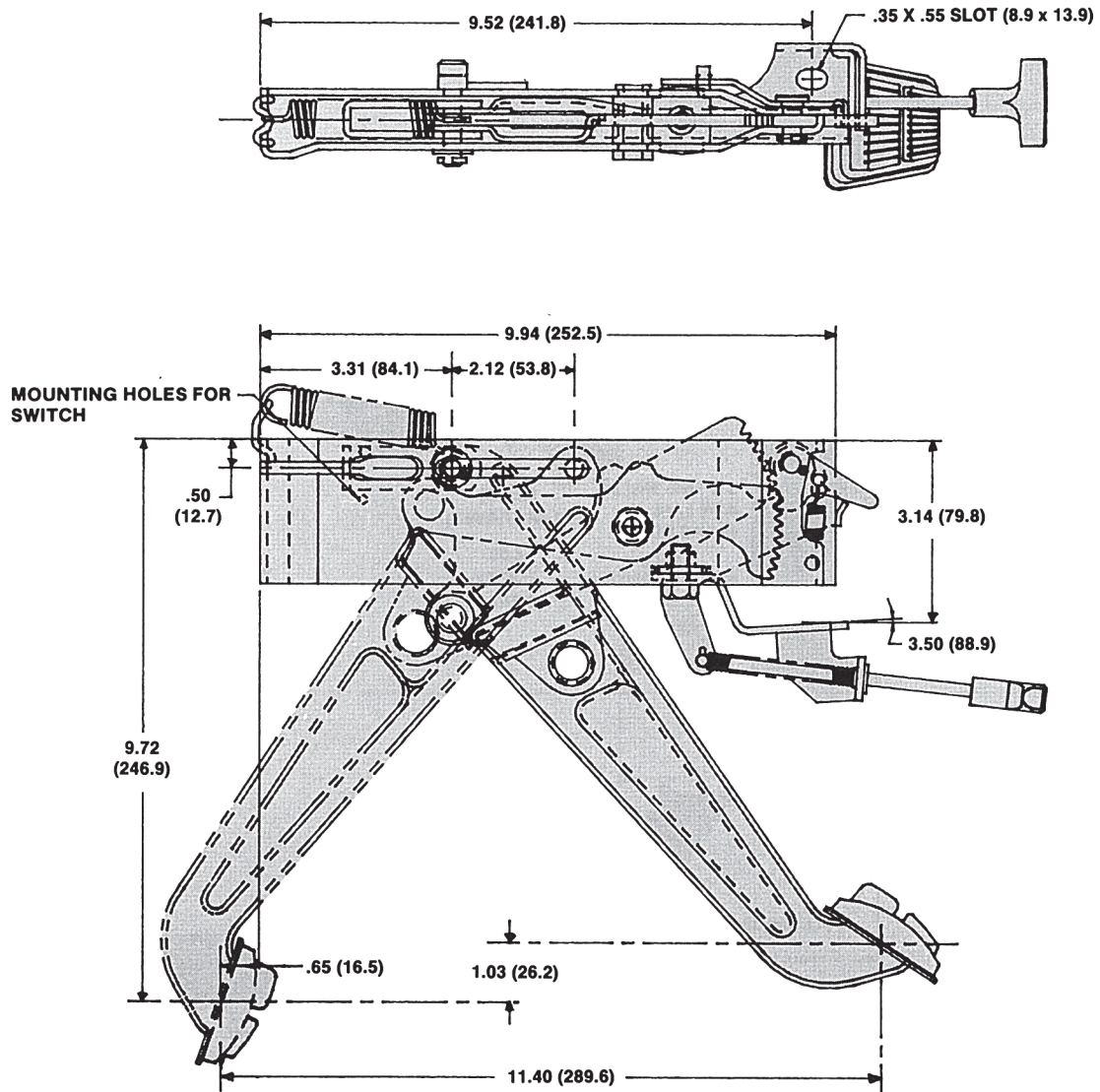
PEDAL LENGTH	"X" MAX. TRAVEL
5.00 (127.0)	1.00 (25.4)
5.00 (127.0)	1.50 (38.1)
5.00 (127.0)	2.00 (50.8)

PEDAL LENGTH	"X" MAX. TRAVEL
5.00 (127.0)	1.00 (25.4)
5.00 (127.0)	1.50 (38.1)
9.00 (229.0)	2.06 (52.3)

FOOT PEDAL LEVERS



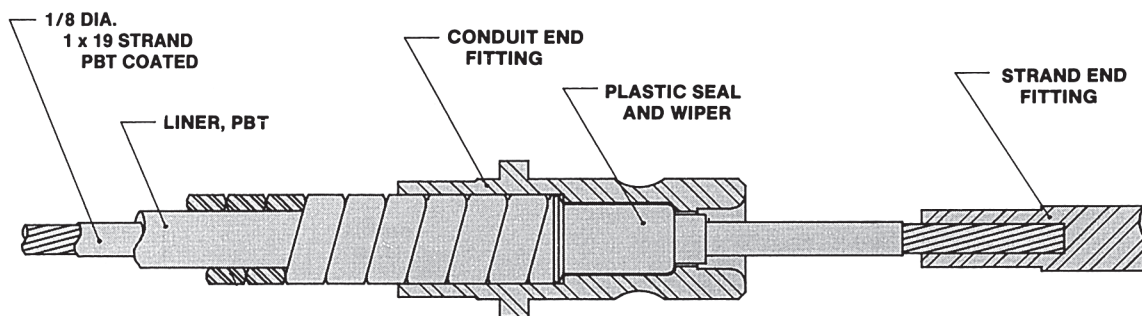
PEDAL LENGTH	MAX. TRAVEL
9.72 (246.9)	2.12 (53.9)





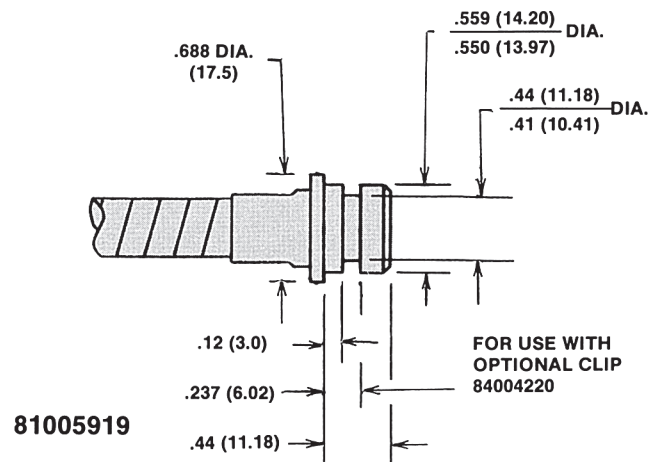
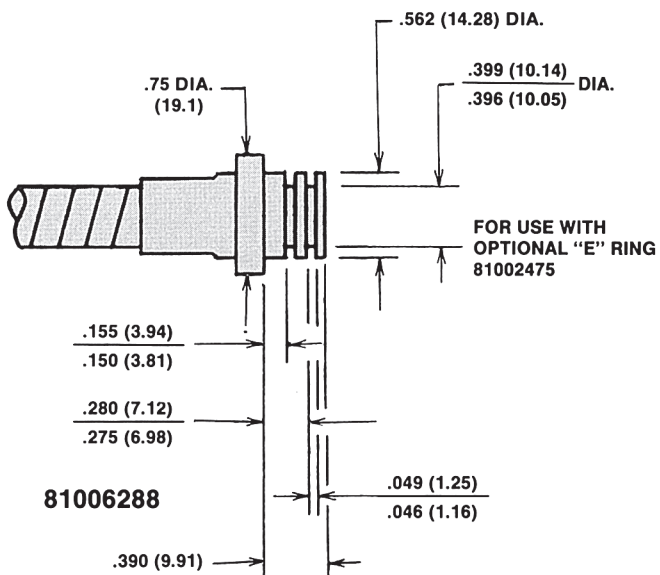
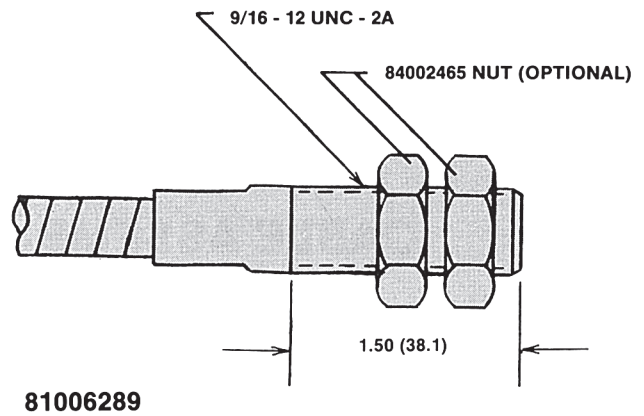
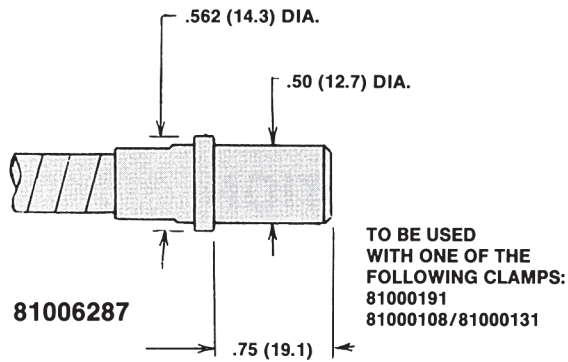
1/8" PBT BRAKE CABLES

PBT is short for Polybutylene Terephthalate: These cables utilize PET coated strand, PET liner, a patented seal with internal and external features and boundary lubrication. All of these features combine to give Orscheln cables far better corrosion protection than ordinary galvanized constructions. The 1/8" PET cables are designed for use in light to medium duty applications. These cables are rated at 1,200 pounds or less.



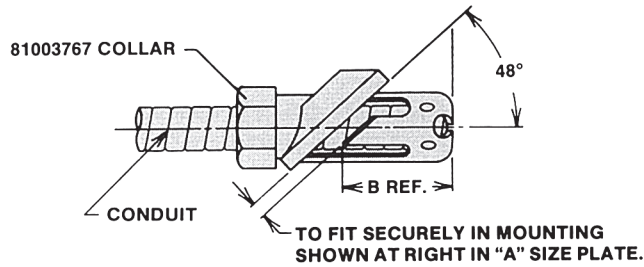


CONDUIT END FITTINGS

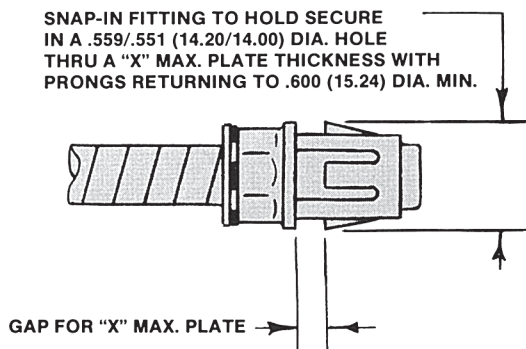




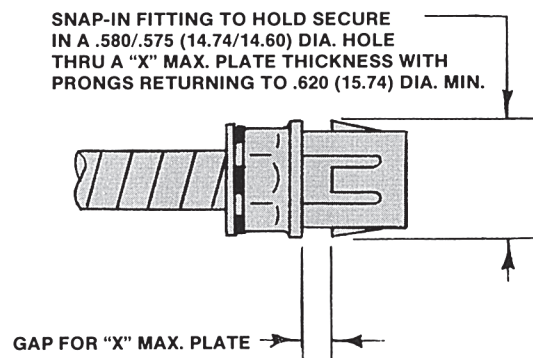
CONDUIT END FITTINGS



PART NO.	A	B
95001244	.130/.105 (3.30/2.67)	1.03 (26.2)
95001388	.205/.170 (5.21/4.32)	.93 (23.6)



PART NO.	"X" MAX. PLATE
95001218	.133 (3.38)
95001434	.193 (4.90)

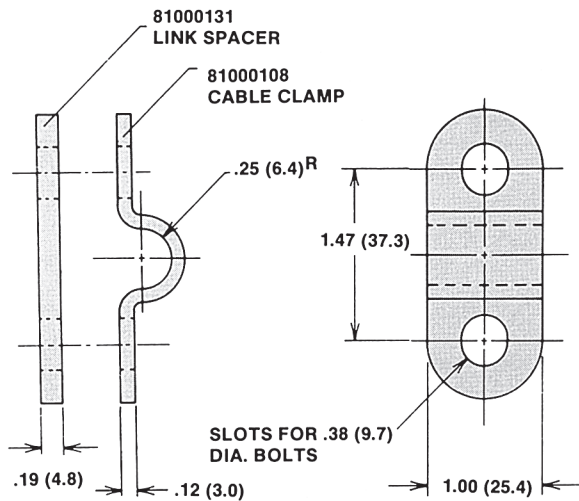


PART NO.	"X" MAX. PLATE
95001278	.133 (3.38)
95001279	.200 (5.08)

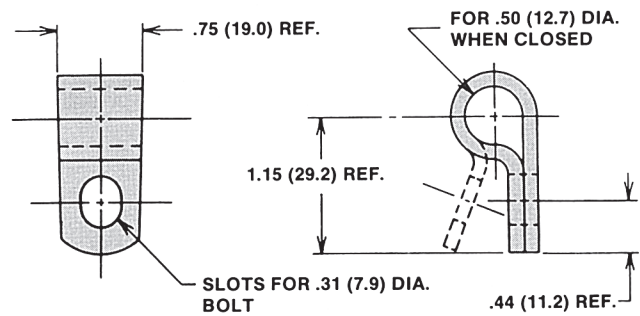


CONDUIT MOUNTING CLAMPS

81000108 CABLE CLAMP 81000131 LINK SPACER

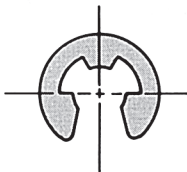


81000191 CABLE CLAMP



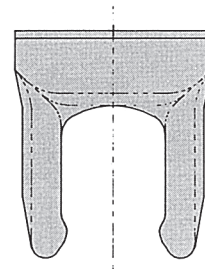
CONDUIT MOUNTING CLIPS

84002475



OPTIONAL WITH END FITTINGS
81002456
81006102
81006288

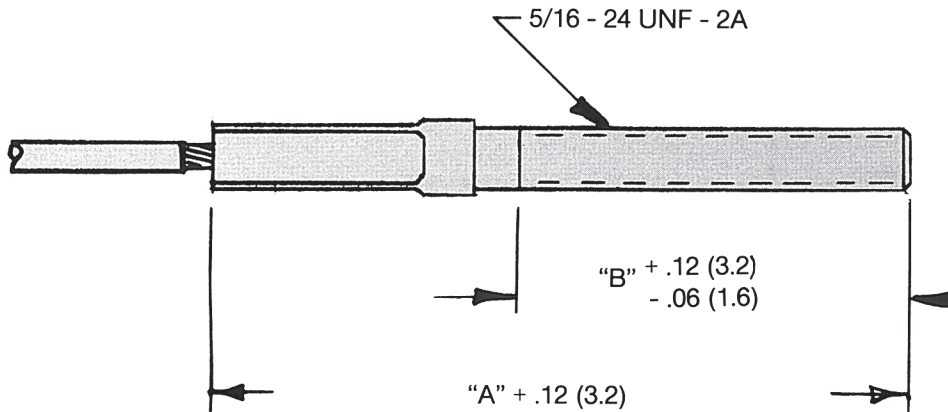
84004220



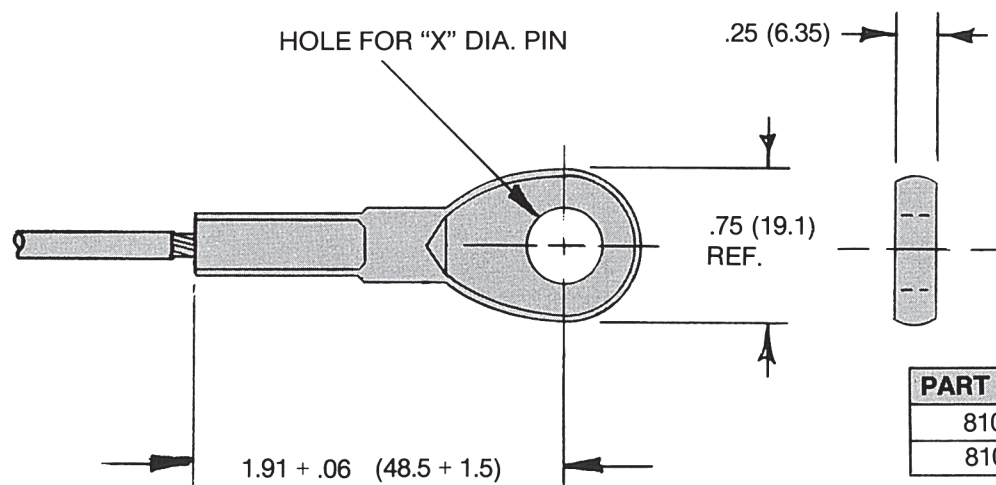
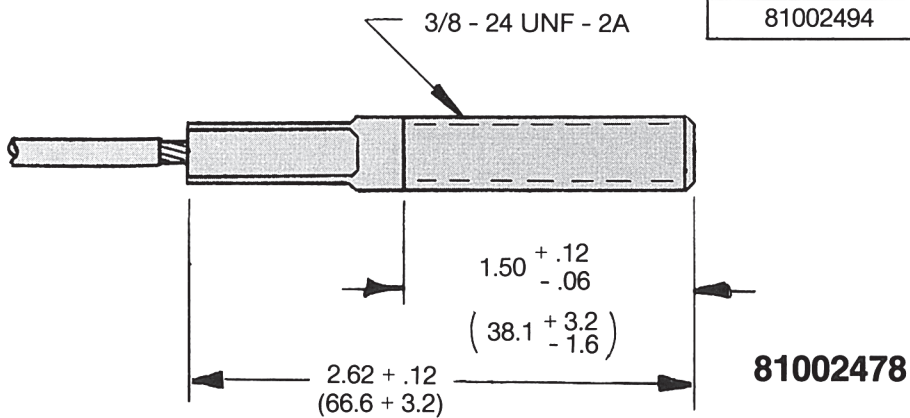
OPTIONAL WITH
END FITTINGS
81005919
81006103



OPTIONAL STRAND END FITTINGS



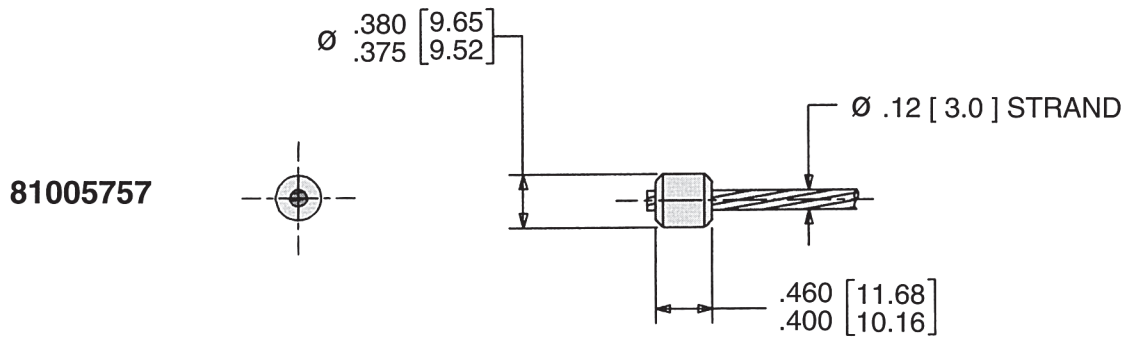
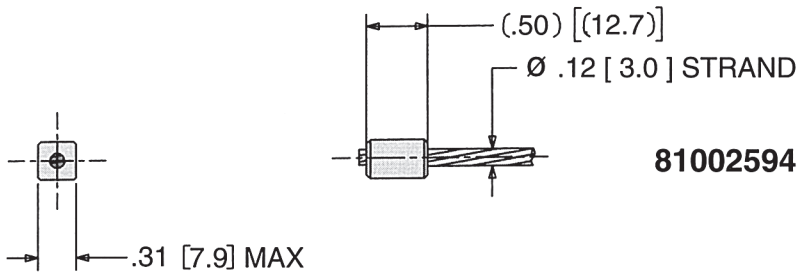
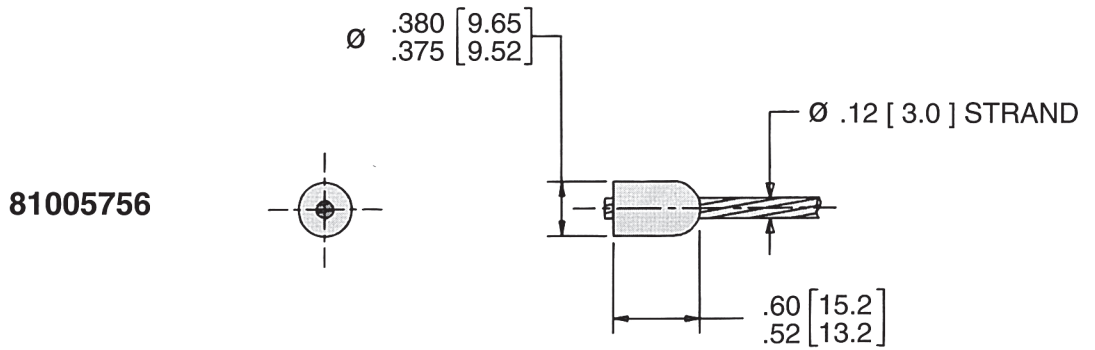
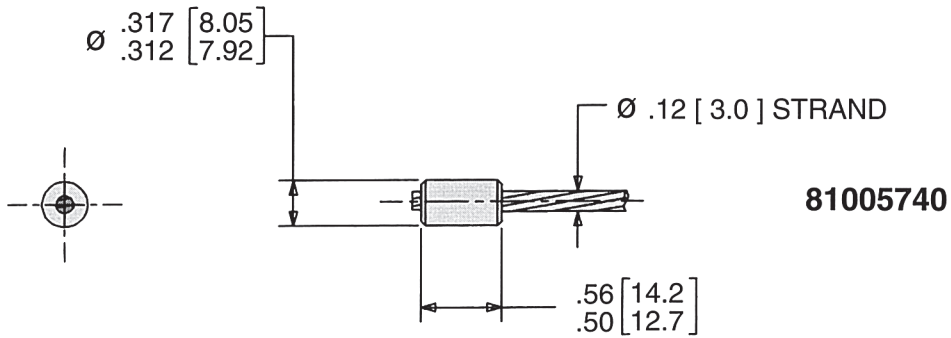
PART NUMBER	A	B
81002491	2.88 (73.2)	1.50 (38.1)
81002494	3.62 (92.0)	2.25 (57.2)



PART NUMBER	'X' DIA. PIN.
81002510	.31 (8.0)
81002519	.38 (9.5)

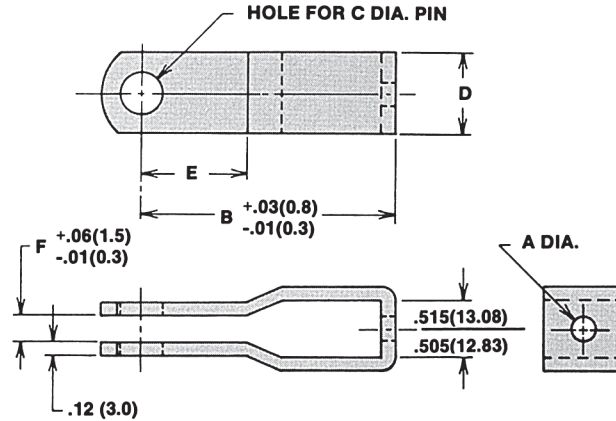


STRAND END FITTINGS



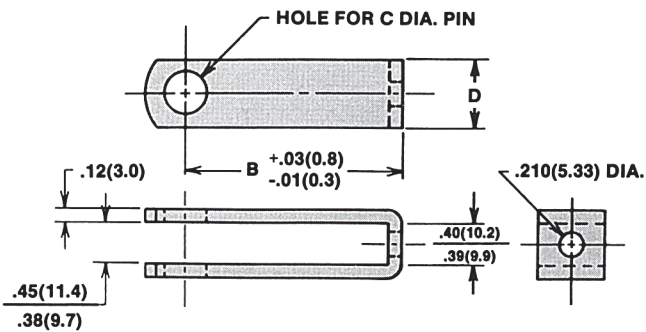


1/8 CLEVIS

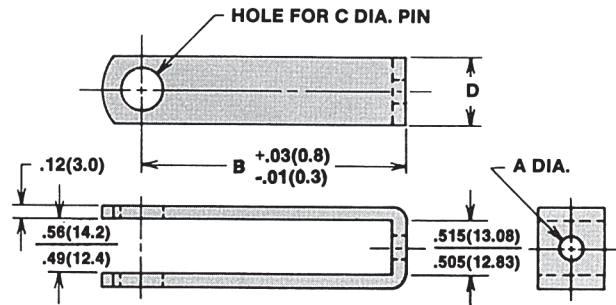


PART NO.	A	B	C	D	E	F
*81002454	.210(5.33)	1.56(39.6)	.31(7.9)	.62(15.8)	.31(7.9)	.19(4.8)
81002535	.210(5.33)	2.38(60.5)	.31(7.9)	.75(19.0)	1.00(25.4)	.25(6.4)
81002536	.210(5.33)	2.38(60.5)	.38(9.7)	.75(19.0)	1.00(25.4)	.25(6.4)
81002537	.210(5.33)	1.75(44.4)	.31(7.9)	.62(15.8)	.38(9.7)	.25(6.4)
81002646	.359(9.12)	1.75(44.4)	.31(7.9)	.75(19.0)	.38(9.7)	.25(6.4)
81002685	.359(9.12)	2.38(60.5)	.31(7.9)	.75(19.0)	1.00(25.4)	.25(6.4)
81002858	.359(9.12)	4.00(101.6)	.38(9.7)	.75(19.0)	.50(12.7)	.25(6.4)
81002963	.359(9.12)	3.00(76.2)	.31(7.9)	.75(19.0)	.75(19.0)	.25(6.4)

* Designed for use in Orscheln COWL TYPE lever assemblies.



PART NO.	B	C	D
81002545	1.62(41.2)	.31(7.9)	.62(15.8)
81002546	2.00(50.8)	.31(7.9)	.62(15.8)
81002550	2.00(50.8)	.38(9.7)	.75(19.0)

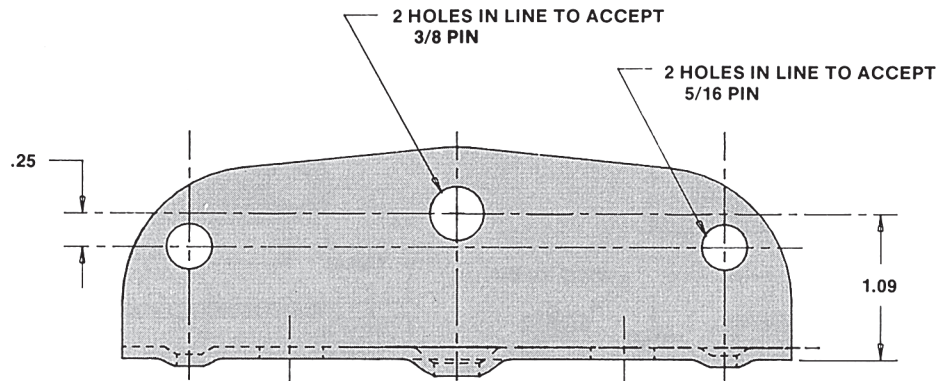
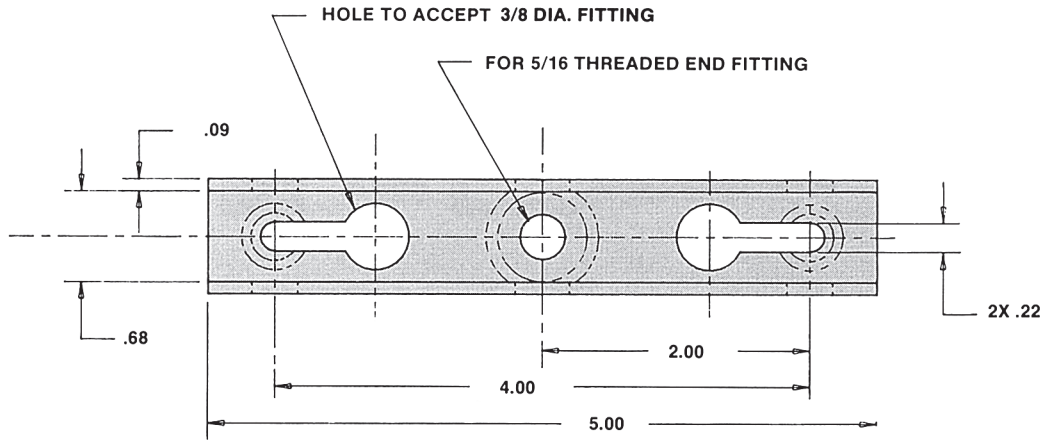


PART NO.	A	B	C	D
*81002467	.210(5.33)	1.94(49.3)	.38(9.7)	.75(19.0)
81002578	.210(5.33)	1.88(47.8)	.31(7.9)	.62(15.8)
81002635	.323(8.20)	2.50(63.5)	.31(7.9)	.62(15.8)
81002914	.323(8.20)	2.50(63.5)	.38(9.7)	.75(19.0)

* For use with Orscheln BELL CRANK TYPE lever assemblies.



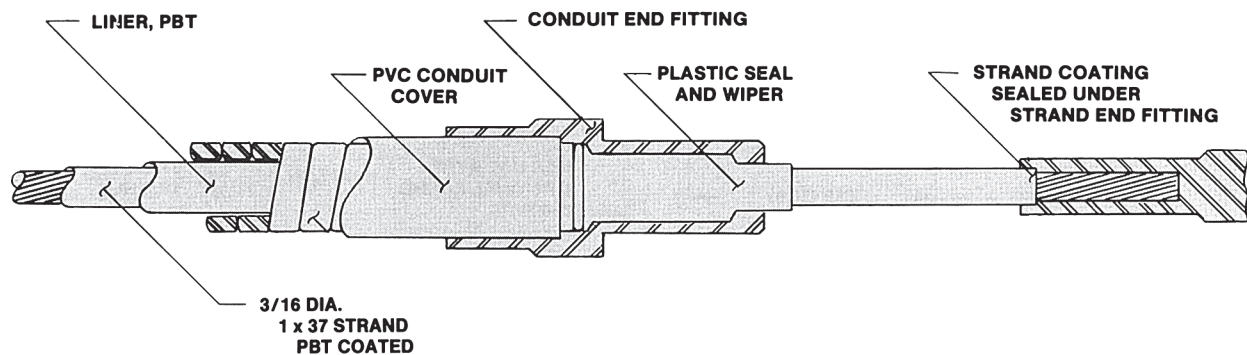
EQUALIZER 81007269





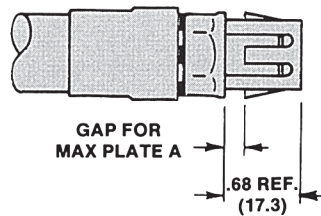
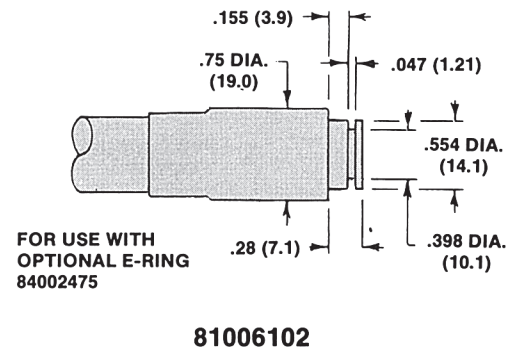
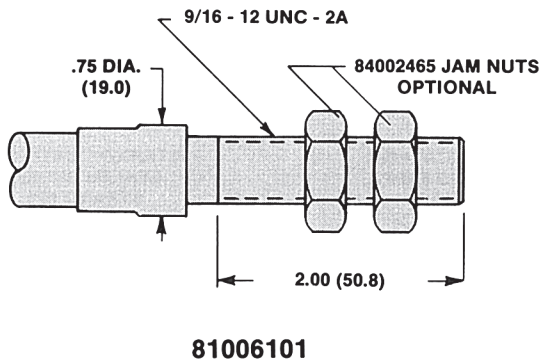
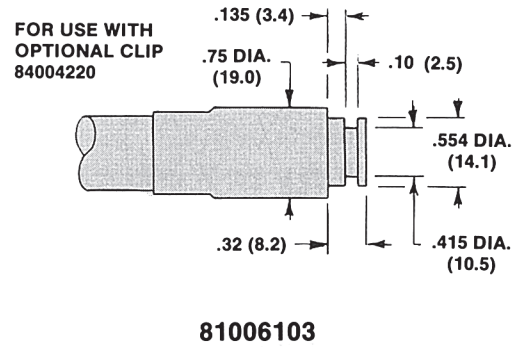
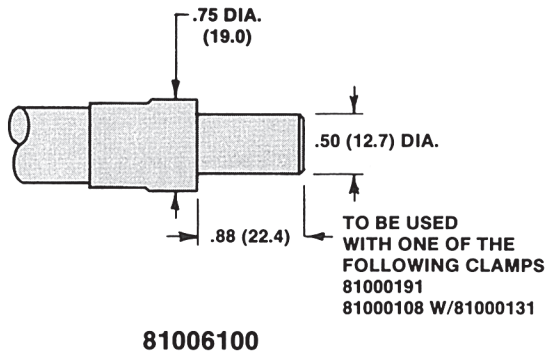
3/16" PBT BRAKE CABLES

3/16" PBT cables offer the same qualities as the 1/8" cables. However, this size of cable is recommended for heavier loads up to 3,000 pounds. Many of the characteristics described in the cable design section will help you in determining which size of cable is right for your application.





CONDUIT END FITTINGS

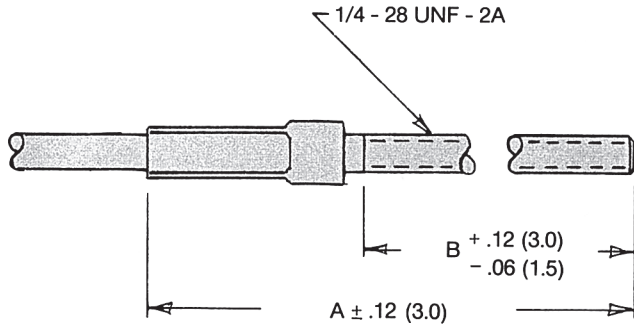


PART TO BE SECURE IN A .580/.575 (14.8/14.6) DIA. HOLE THRU "A" MAX PLATE WITH PRONGS RETURNING TO .62 (15.7) DIA. MIN.

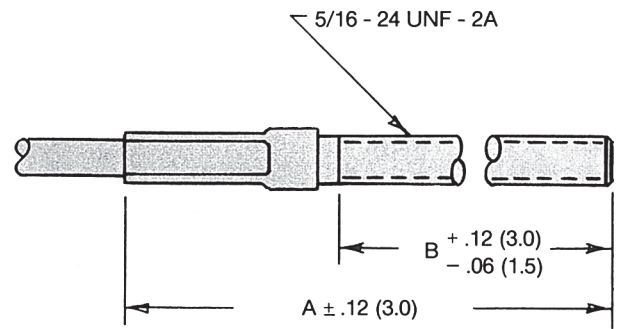
PART NO.	A
95001340	.127 (3.0)
95001341	.193 (4.9)
95001339	.253 (6.4)



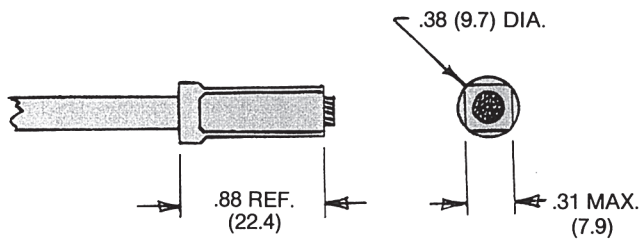
OPTIONAL STRAND END FITTINGS



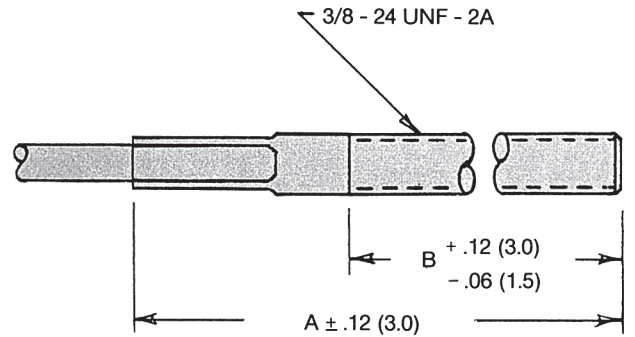
PART NO.	A	B
81006109	3.00 (76.2)	1.50 (38.1)



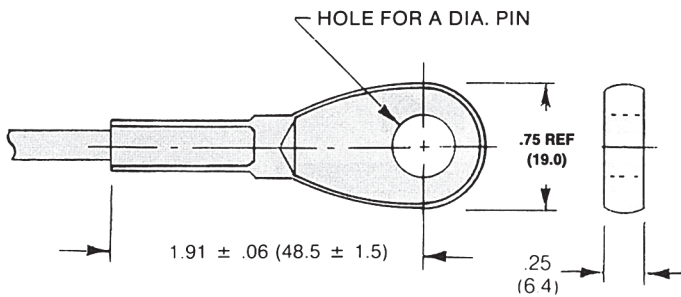
PART NO.	A	B
81006111	3.00 (76.2)	1.50 (38.1)
81006112	3.75 (95.3)	2.25 (57.2)



81006099



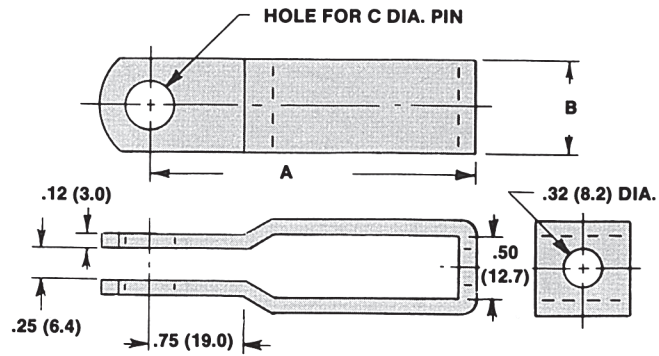
PART NO.	A	B
81006113	2.62 (66.6)	1.50 (38.1)
81006114	3.62 (92.0)	2.50 (63.5)



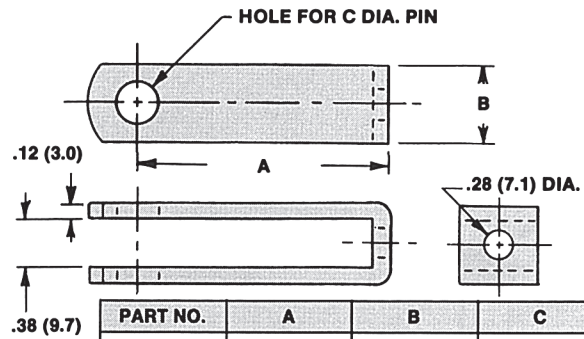
PART NO.	A
81006116	.31 (7.9)
81006117	.38 (9.7)



3/16 CLEVIS

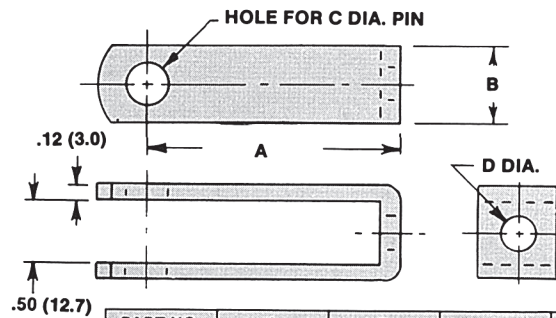


PART NO.	A	B	C
81002963	3.00 (76.2)	.62 (15.8)	.31 (7.9)
81006106	3.00 (76.2)	.75 (19.0)	.38 (9.7)



PART NO.	A	B	C
*81006273	1.50 (38.1)	.62 (15.8)	.31 (7.9)
81006107	2.00 (50.8)	.62 (15.8)	.31 (7.9)
81006108	1.62 (41.2)	.75 (19.0)	.38 (9.7)

* Designed for use in Orscheln COWL TYPE lever assemblies.

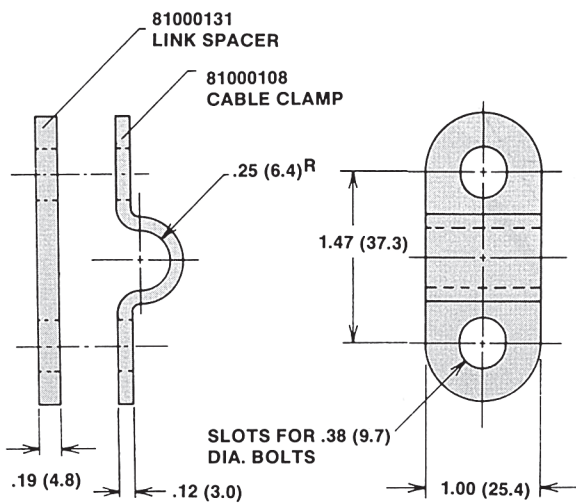


PART NO.	A	B	C	D
81002635	2.50 (63.5)	.62 (15.8)	.31 (7.9)	.32 (8.2)
81002914	2.50 (63.5)	.75 (19.0)	.38 (9.7)	.32 (8.2)
81006104	2.00 (50.8)	.62 (15.8)	.31 (7.9)	.28 (7.1)
81006105	2.00 (50.8)	.75 (19.0)	.38 (9.7)	.28 (7.1)

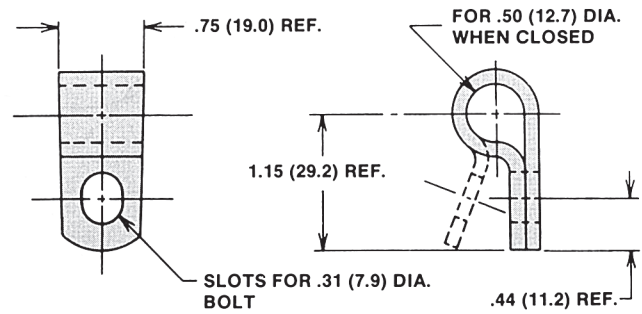


CONDUIT MOUNTING CLAMPS

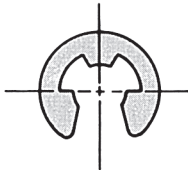
81000108 CABLE CLAMP 81000131 LINK SPACER



81000191 CABLE CLAMP

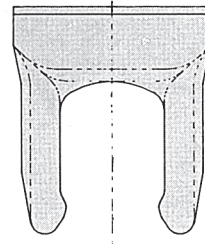


84002475



OPTIONAL WITH END FITTINGS
81002456
81006102
81006288

84004220



OPTIONAL WITH
END FITTINGS
81005919
81006103



TRAILER PARKING BRAKE SYSTEMS

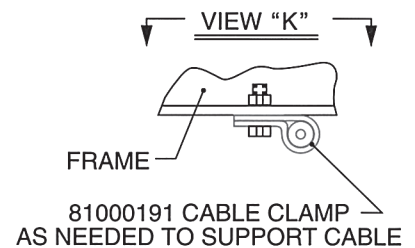
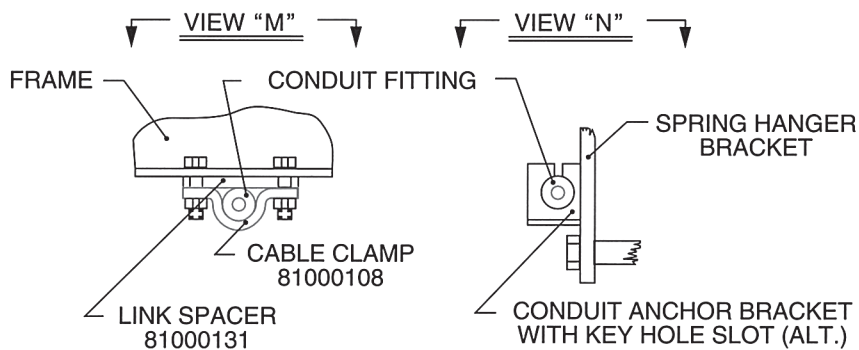
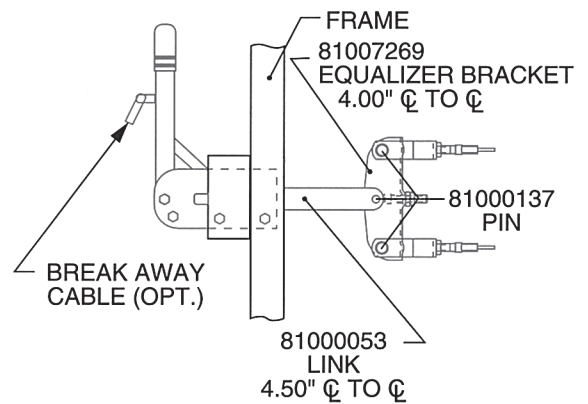
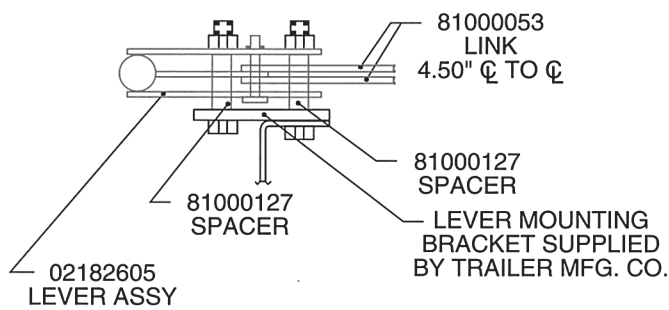
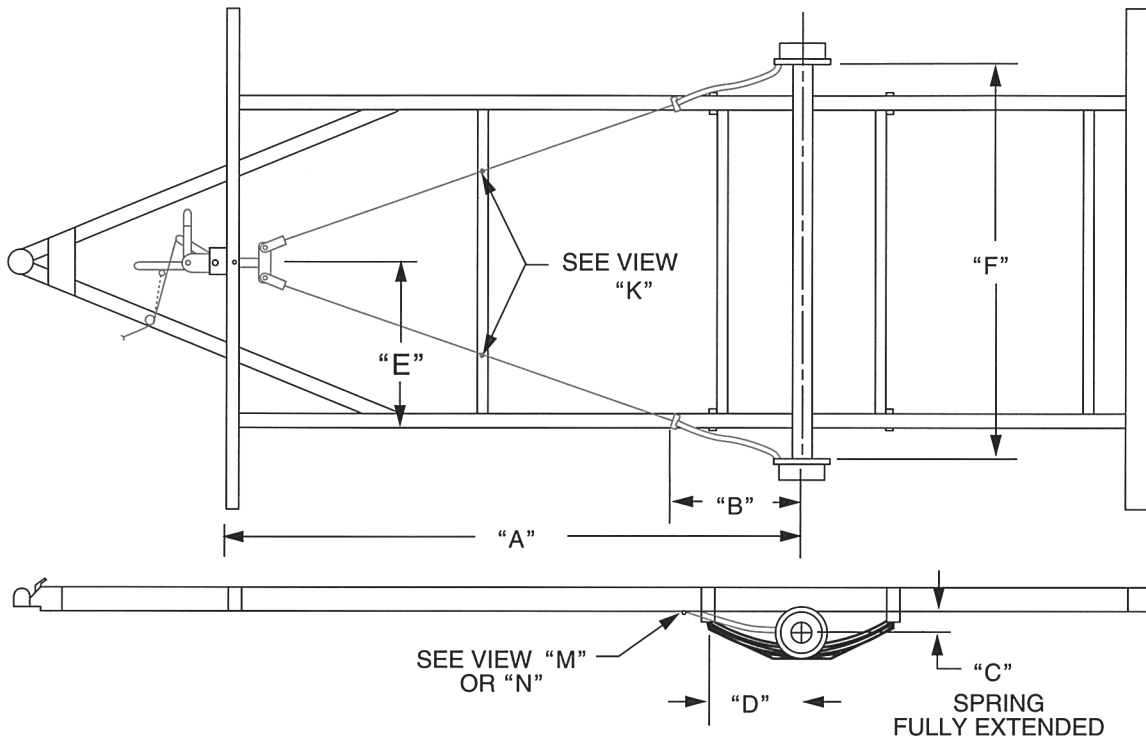
This section gives you three different layouts to choose from. By filling out and returning the specification sheet, you are assured of receiving a trailer system that is “custom” designed for your application. In addition, our break-away and padlock options provide additional protection. The mechanical break-away feature will engage the trailer brakes automatically if the towed vehicle becomes unhooked during transportation. The lockable over-center lever prevents any unauthorized person from moving the trailer once the system is engaged and locked.





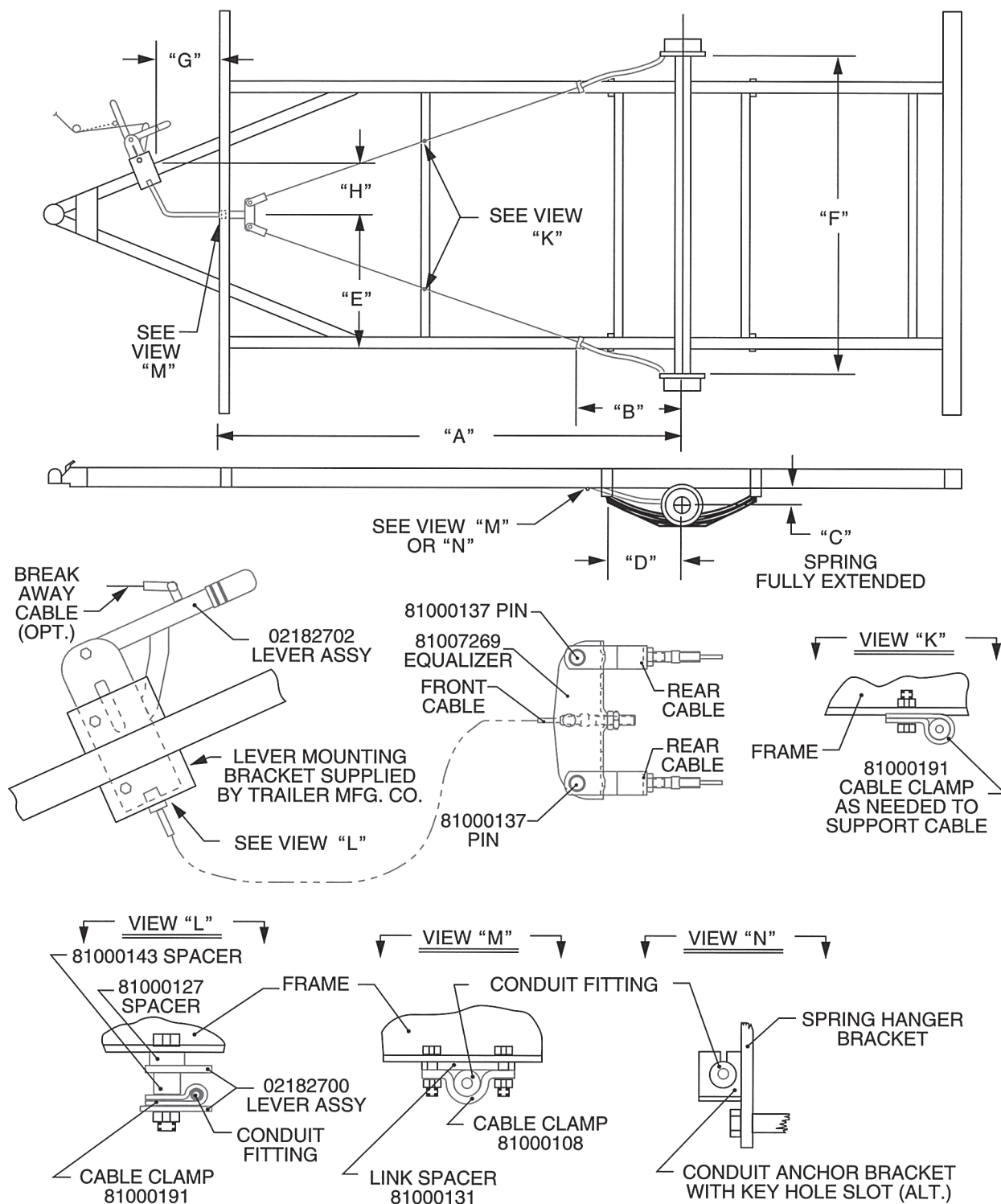
TRAILER PARKING BRAKE SYSTEMS

LAYOUT NO. 1 SINGLE AXLE – BRAKE LEVER ON FRONT CROSSMEMBER





LAYOUT NO. 2 SINGLE AXLE – BRAKE LEVER ON “A” FRAME





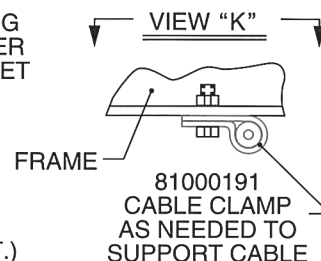
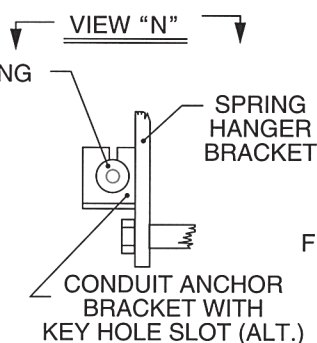
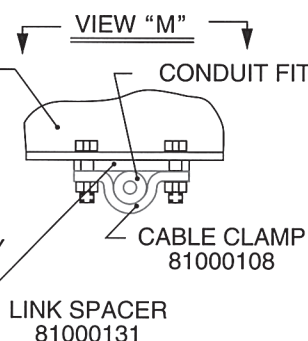
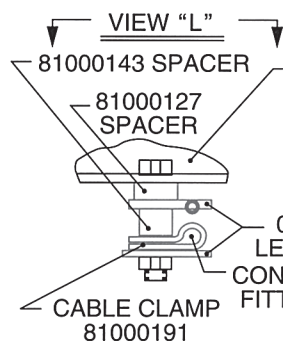
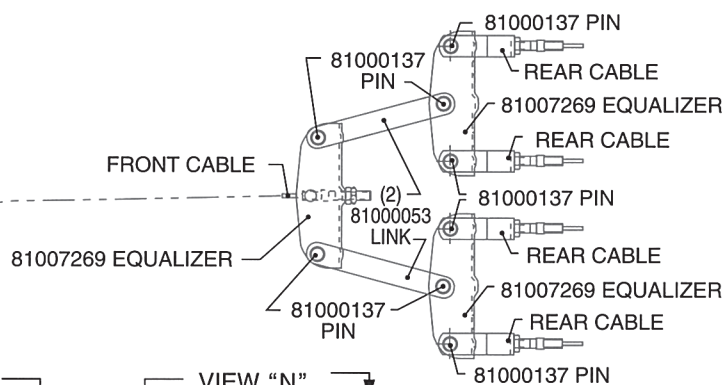
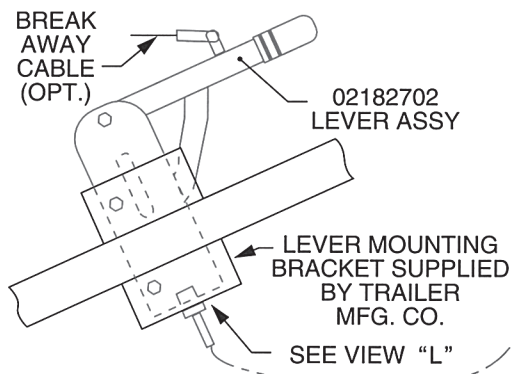
Technical drawing of a mechanical assembly, likely a spring mechanism, showing dimensions and callouts. The drawing includes a side view and a cross-sectional view of a spring.

Dimensions:

- A₁**: Horizontal distance from the left edge to the first vertical support.
- A₂**: Horizontal distance from the first vertical support to the second vertical support.
- B₁**: Horizontal distance from the left edge to the first vertical support.
- B₂**: Horizontal distance from the first vertical support to the second vertical support.
- C₁ & C₂**: Horizontal distance from the left edge to the center of the spring.
- D₁**: Horizontal distance from the left edge to the first vertical support.
- D₂**: Horizontal distance from the first vertical support to the second vertical support.
- E**: Vertical distance from the bottom edge to the top of the spring.
- F₁**: Vertical distance from the bottom edge to the top of the spring.
- F₂**: Vertical distance from the bottom edge to the top of the spring.
- G**: Vertical distance from the bottom edge to the top of the spring.
- H**: Vertical distance from the bottom edge to the top of the spring.

Callouts:

- SEE VIEW "K"**: Points to the top of the spring.
- SEE VIEW "M"**: Points to the left side of the spring.
- SEE VIEW "M" OR "N"**: Points to the bottom of the spring.
- SPRING FULLY EXTENDED**: Label for the bottom view of the spring.





ORSCHELN PARKING BRAKE SYSTEM SPECIFICATION SHEET

In order to ensure an accurate quote, please provide the following information:

- A1 _____ Front of frame to centerline axle. (Layouts 1 & 2)
A2 _____ Dual axle only. (Layout 3)
B1 _____ Centerline of axle to conduit mount on frame. (Layouts 1 & 2)
B2 _____ Dual axle only. (Layout 3)
C1 _____ Bottom of frame to centerline of axle. (Layouts 1 & 2)
C2 _____ Dual axle only. (Layout 3)
D1 _____ Centerline of axle to centerline of front spring hanger bracket through bolt.
(Layouts 1 & 2)
D2 _____ Dual axle only. (Layout 3)
E _____ Centerline of frame and equalizer to outside of frame.
F1 & 2 _____ Backing plate to backing plate.

“A” FRAME LEVER MOUNT INFORMATION

- G _____ Front of frame to edge of lever intersecting “A” frame. (Layouts 2 & 3)
H _____ Centerline of frame and equalizer to edge of lever intersecting “A” edge.
(Layouts 2 & 3)
I. _____ Notification of any obstacles below the trailer frame that may interfere with
cable routings.

GENERAL INFORMATION

1. Gross vehicle weight, fully loaded _____ pounds.
2. Brake manufacturer and part number:
Mfg. _____ Left _____ Right _____
3. Lever location, if other than shown on layouts _____
4. Type of axles _____
5. Frame material width at all points where cables are to mount _____





check » shift » accelerate » park

Orscheln Markets

TRUCK



BUS



MILITARY



CONSTRUCTION



AGRICULTURE



Orscheln Products

PARK BRAKE SYSTEMS



MECHANICAL
CONTROL CABLES



FLUID LEVEL INDICATORS



ELECTRONIC THROTTLE
CONTROL SYSTEMS



SHIFT CONTROL SYSTEMS

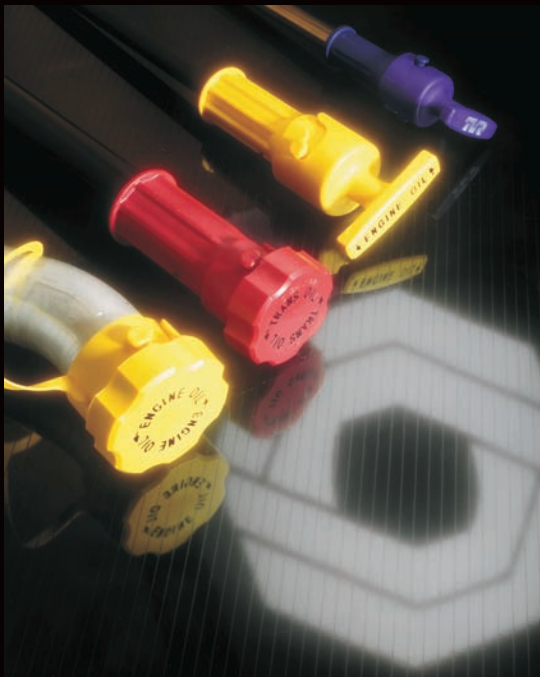




***Felsted Heavy Duty
Automatic Transmission Controls***



Felsted HP Control Cables



***Felsted Fluid Level Indicator Systems
for Engines and Transmissions***



***Orscheln Parking Brake Controls
and Control Cables***