

Felsted® HP Cables Catalog

ORSCHELN®

HP Cables

High Performance Control Cables & Hardware

Push-Pull Cables
Universal Cables
Positive Lock Cables
Vernier Cables
Tension Cables
PTO Cables
Valve Control Cables
Hardware

Features & Construction

Core Constructions

Hi-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, 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 utilize 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, uses a nylon based material and is molded into 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 fittings are plated steel.

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 Hi-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

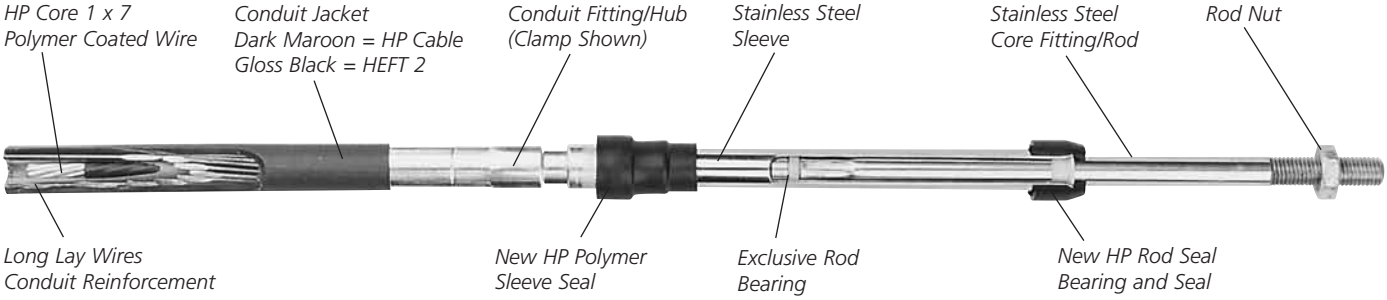
An exclusive polymer rod and sleeve bearing is used to improve efficiency, sealing and cable life by preventing metal-to-metal contact between the rod and sleeve. They also accurately align the rod with the seal to ensure superior sealing and a long cable life.

ORSCHELN®

For more information call

660.263.4377

Specifications subject to change without notice

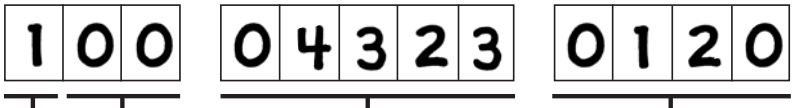


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How to Order Felsted Brand HP Cables: Part Number System

Standard/Imperial



Example of a common Push-Pull Cable part number.
A standard HP Cable with no cable head, 4 Series, 3 inch travel, bulkhead hub, clamp hub and 120 inches in length.

Length
Inches
(mm when M prefix is used)

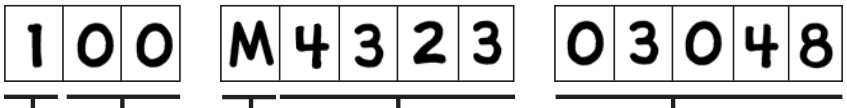
Control Head Options
00 None — Cable Without Head
73 Positive Lock Quick-Disconnect Head: 3" Travel
75 Positive Lock Quick-Disconnect Head: 5" Travel
90 Vernier Head: Small, Black, Quick-Disconnect
92 Vernier Head: Large, Black, Quick-Disconnect
94 Vernier Head: Large, Black with Red Button, Quick-Disconnect

Basic Cable Number
(Choose from this catalog)

Push-Pull Cables: 3, 4, 6 & 8 Series 3
Universal Cables: 3 Series Light Duty (LD) 5
Knobs & T-Handles for Universal Cables 5
Universal Cables: 3 Series Heavy Duty (HD), 4 & 6 Series 7
Positive Lock Cables: 3 Series LD, 3 Series HD, 4 Series 9
Vernier Cables: 3 Series LD, 3 Series HD, 4 Series 11
Tension Cables: 3, 4, 6 & 8 Series 13
PTO & RVO Cables 14
RVC & Special Valve Control Cables 15

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



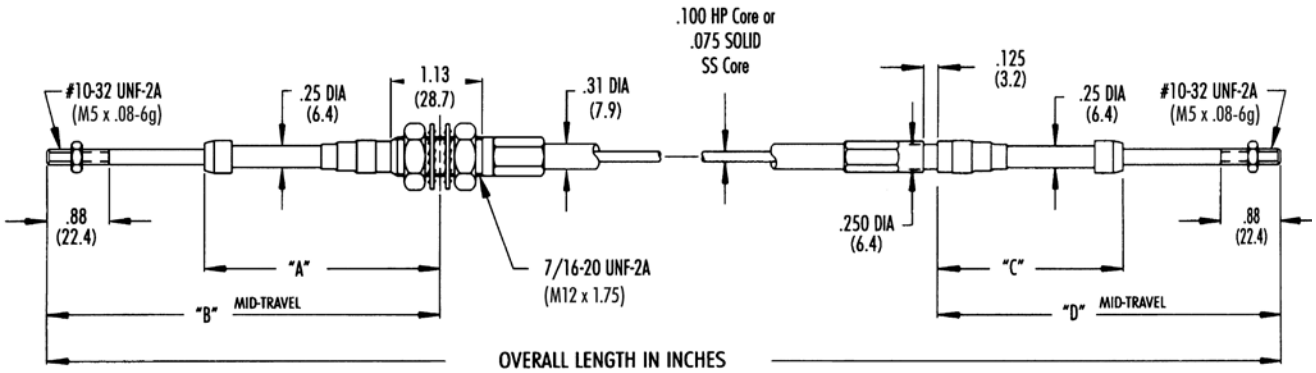
See Above ***See Above*** ***Length – mm***

Metric
"M" prefix designates metric threads on rods **and** length in mm.

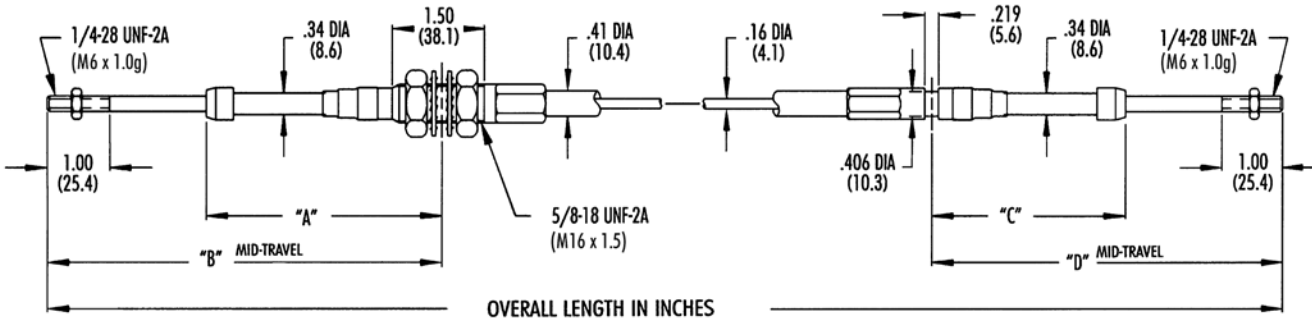
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www.orschelnproducts.com

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

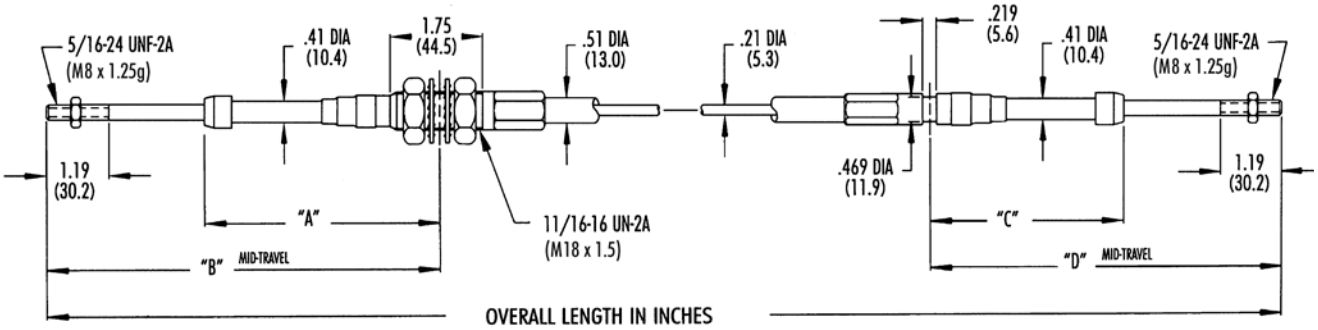
3 SERIES



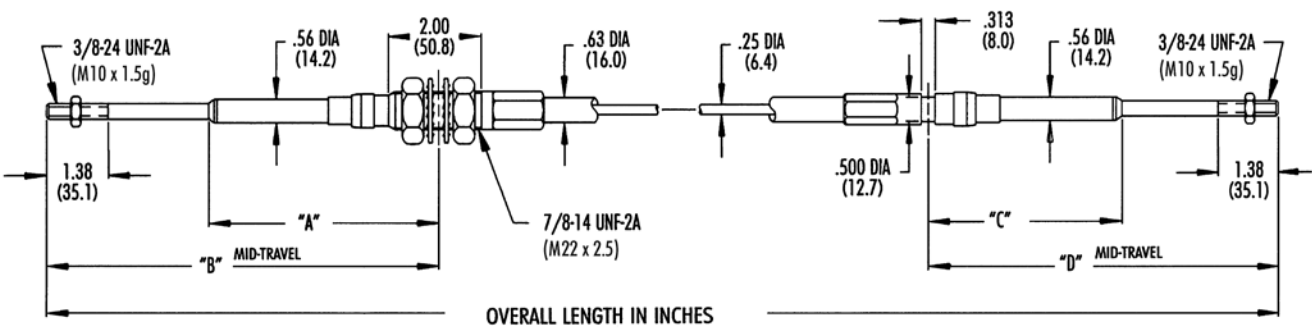
4 SERIES



6 SERIES



8 SERIES



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- 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	Bulkhead End		Clamp End		Operating Loads	
Inch/(mm)	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

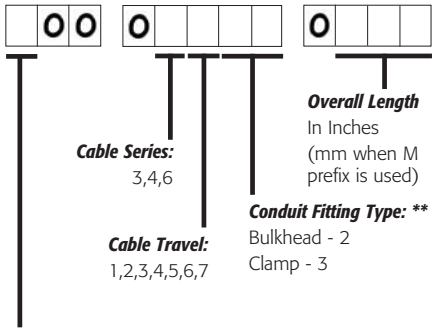
Travel	Bulkhead End		Clamp End		Operating Loads	
Inch/(mm)	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	3.13 (79.5)	4.69 (119.1)	2.50 (63.5)	4.06 (103.1)	150 (667)	230 (1023)
2.0 (50.8)	4.13 (104.9)	6.19 (157.2)	3.50 (88.9)	5.56 (141.2)	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	Bulkhead End		Clamp End		Operating Loads	
Inch/(mm)	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 (233.8)	170 (756)	400 (1779)
5.0 (127.0)	725 (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)

Building a Part Number



Cable Type
0 Solid Core (3 Series Only)
1 Hi-Performance (Standard)
2 Marine
3 HEFT 2 (Hi-Performance & High Temperature)
4 Marine HEFT 2

M *Metric – see pg. 2*

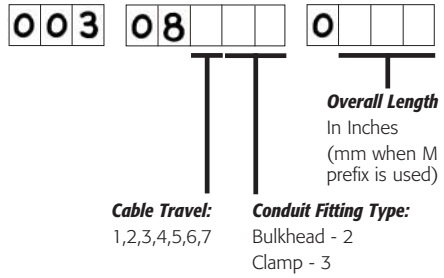
****B-C Combo Hubs = 5**
Bulkhead and Clamp on same end. To order a Bulkhead/Clamp Combination cable, use digits "55" in the conduit fitting type boxes above. Note: Clamp mounting dimensions are the same as the clamp dimensions shown on these pages. Bulkhead mounting dimensions grow. The B-C Combo hub is a flexible solution for applications where the exact hub fitting (clamp vs. bulkhead) is not known.

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

Specifications

Travel	Bulkhead End		Clamp End		Operating Loads	
Inch/(mm)	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



HEFT 2 Not available in 8 Series

M *Metric – see pg. 2*

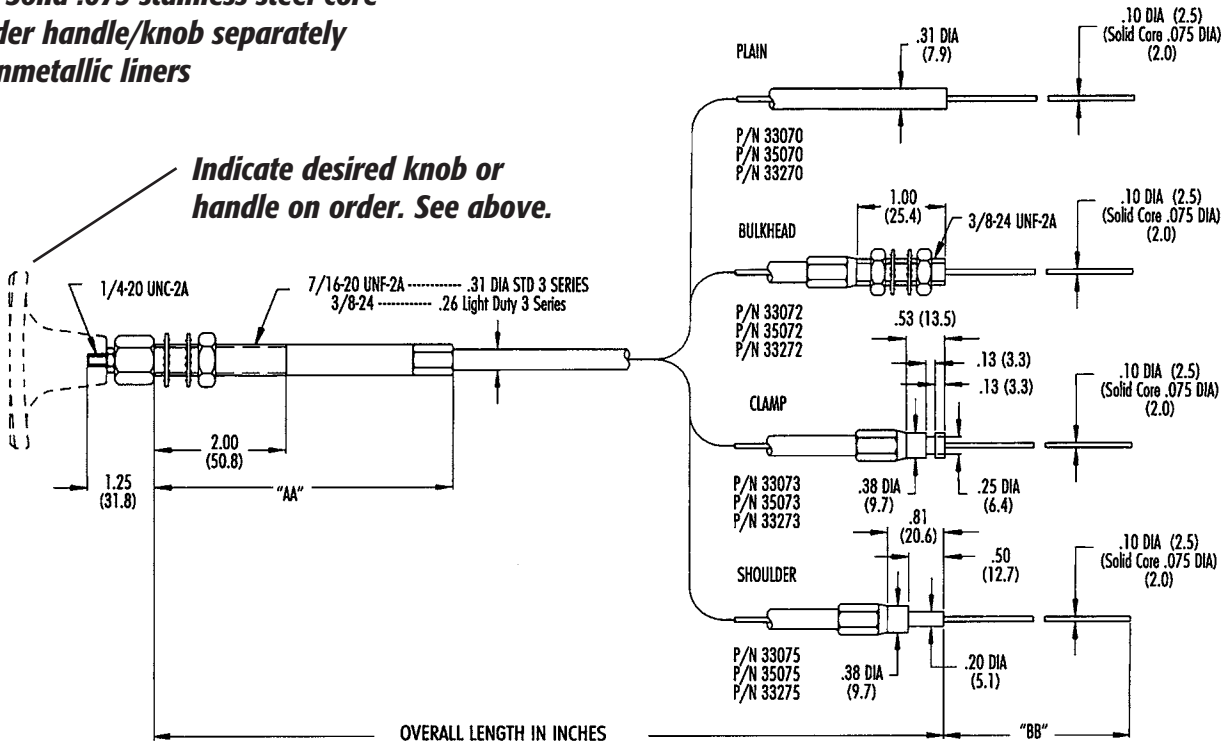
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Can be custom assembled by local F.A.S.T. distributors

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

				3			7		O			

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

Handle Type/Legend I.D.

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

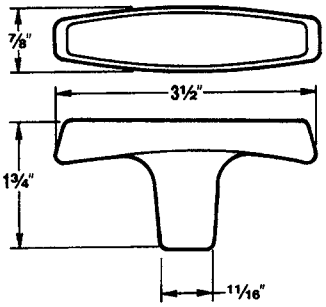
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T-Handles

Tough Nylon Material

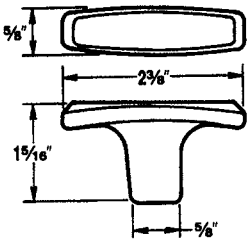
T-HANDLES

69005



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

49005

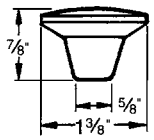


Knobs

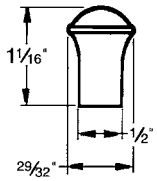
Rugged Phenolic Material

KNOBS

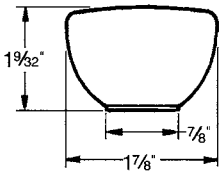
30412



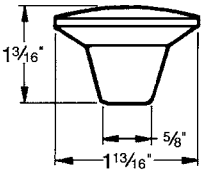
30088



30024
30162



30387



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

Refer to "Buiding a Part Number" at bottom. Knobs limited to above legend identification and thread size combinations.

T-Handle/Knob Only
Building a Part Number

Base Part Number

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 (Lock)
03 Shut-Off	13 Chute	
04 Throttle	14 Fire	21 Rear Door (Lock)
05 Choke	15 Start	
06 PTO	16 Hood	22 Throttle (Lock)
07 Emergency Stop	17 Emergency Fuel Shut-Off	23 Hatch (Lock)
08 Engine Stop		
09 (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.

Universal, Utility, Positive Lock Cable and Knob/T-Handle Assembly
Building a Part Number

Cable Type
0
1
2
3
(See pg. 2)

Type of Handle /Knob
A
B
C
D
E
F
G
H
I
J
K

Legend I.D. on Handle
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
19
20
21
22
23

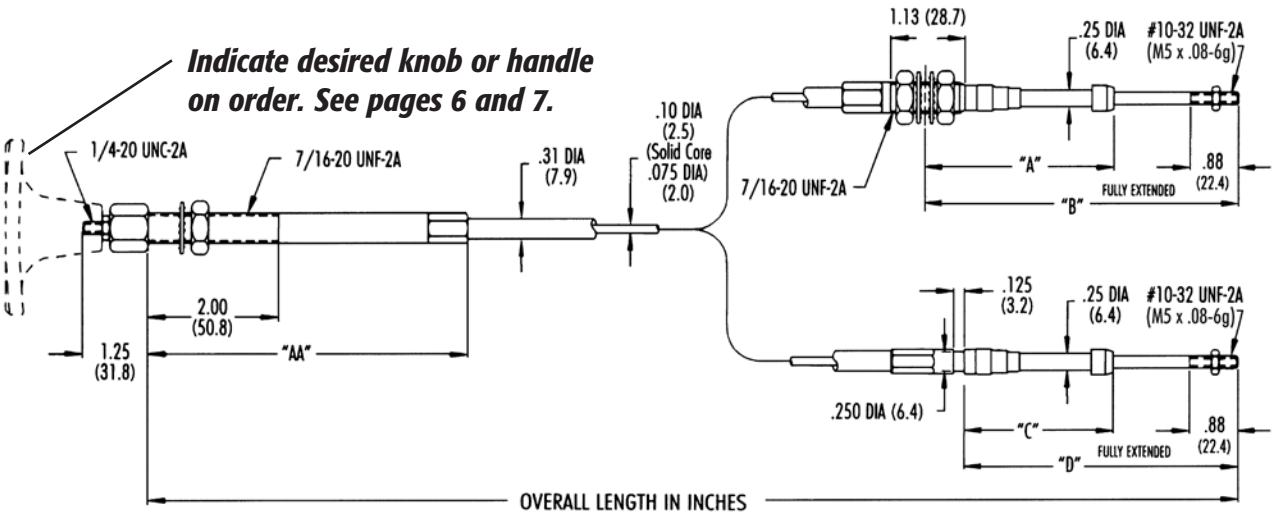
Length

Cable Base Number
33070
33080
35070
35080
03327
03328
04337
04338
06337

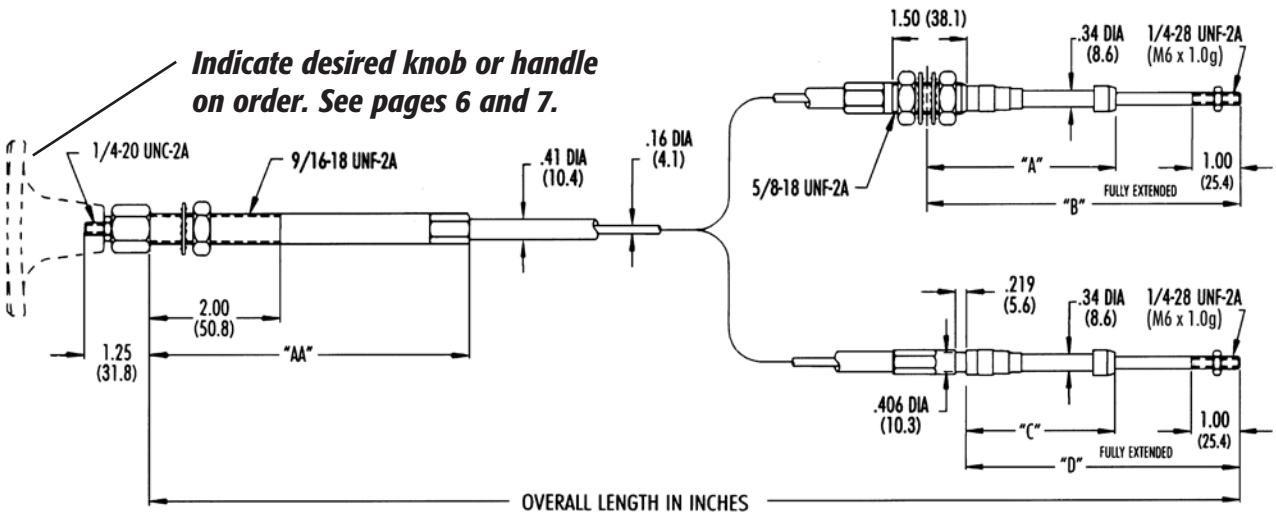
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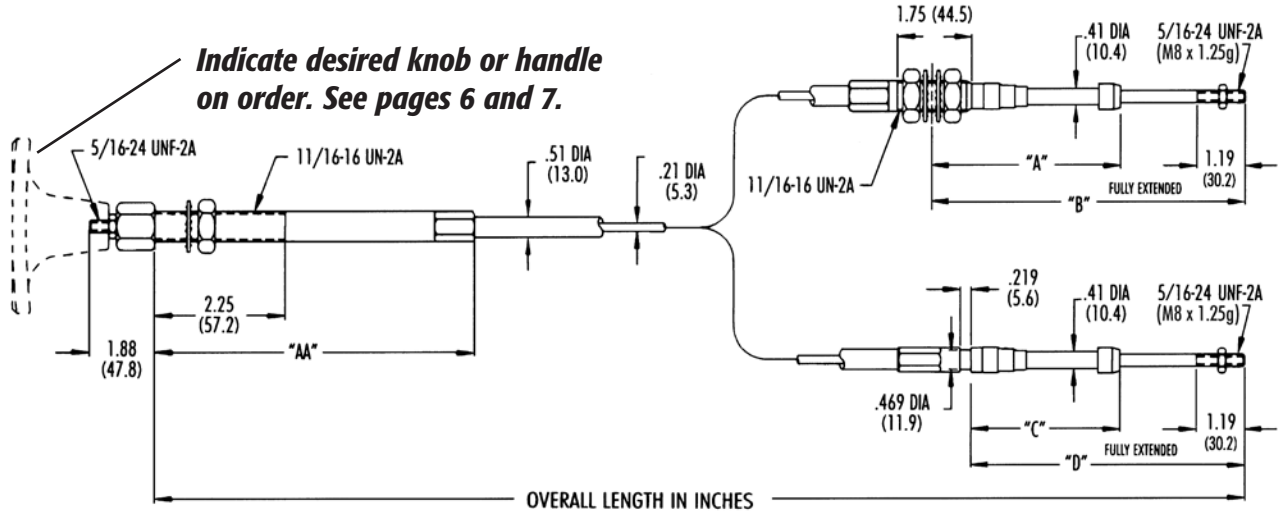
HEAVY DUTY 3 SERIES



HEAVY DUTY 4 SERIES



HEAVY DUTY 6 SERIES



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www.orschelnproducts.com

- 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

Specifications

Travel	DIM "AA"	Bulkhead End		Clamp End		Operating Loads	
Inch/(mm)	Inch/(mm)	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)	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 (227.9)	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	
Inch/(mm)	Inch/(mm)	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)	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)

HEAVY DUTY 6 SERIES

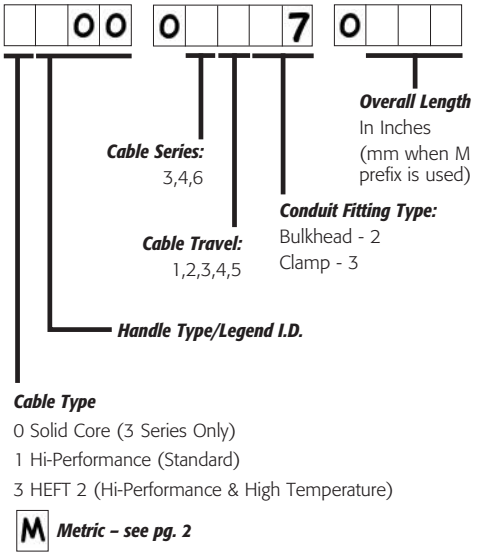
HP Core

5/16" - 28 Thread (output end)

Specifications

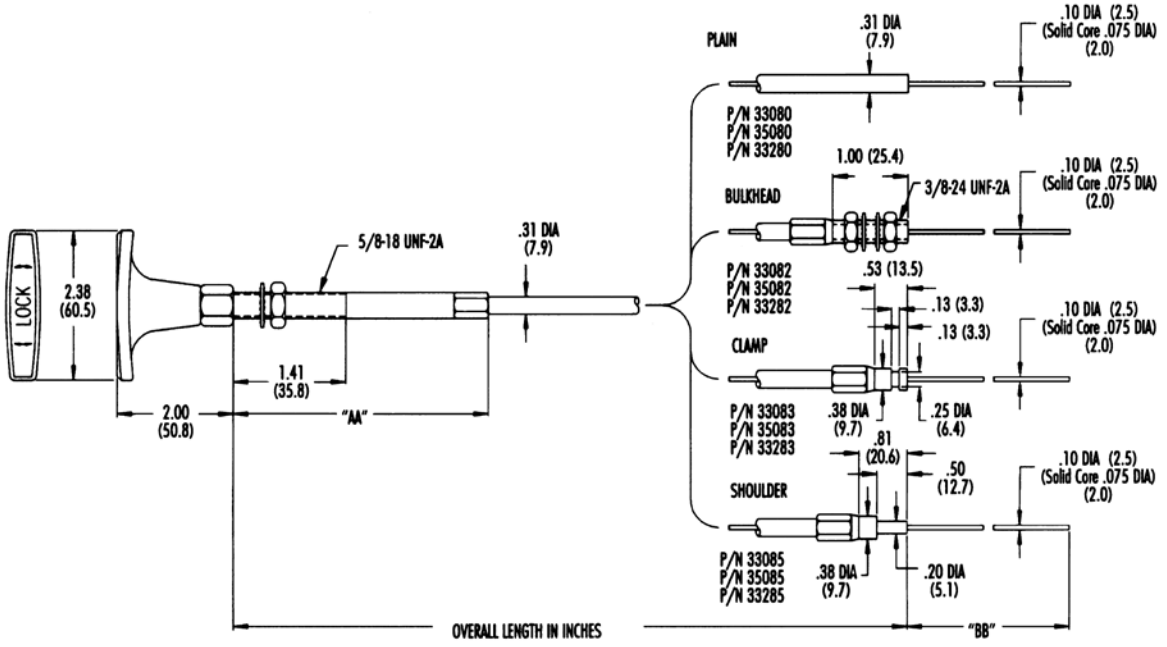
Travel	DIM "AA"	Bulkhead End		Clamp End		Operating Loads	
Inch/(mm)	Inch/(mm)	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	5.19 (131.8)	3.25 (82.6)	5.50 (139.7)	2.56 (65.0)	4.81 (122.2)	225 (1001)	225 (1001)
2.0 (50.8)	5.19 (131.8)	4.25 (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)

Building a Part Number

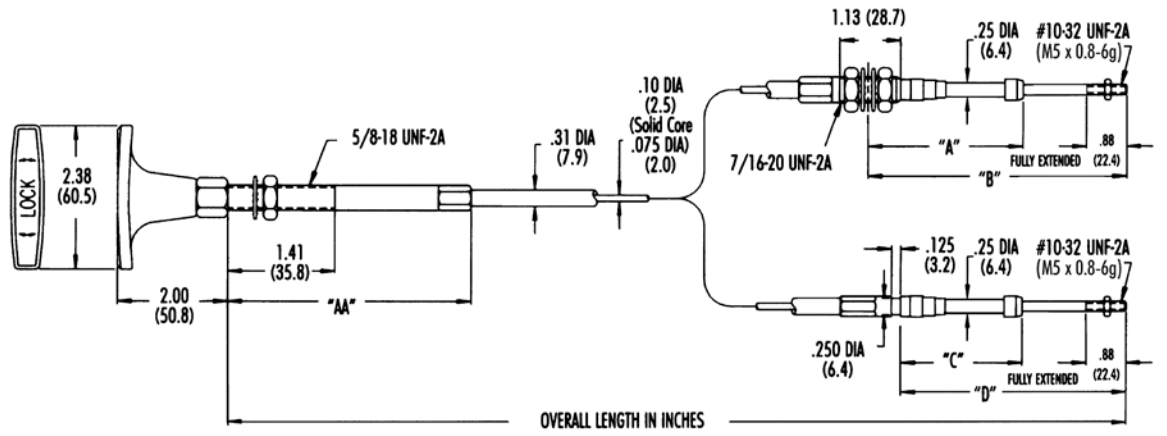


Factory assembled style: see page 11–12 for F.A.S.T. style

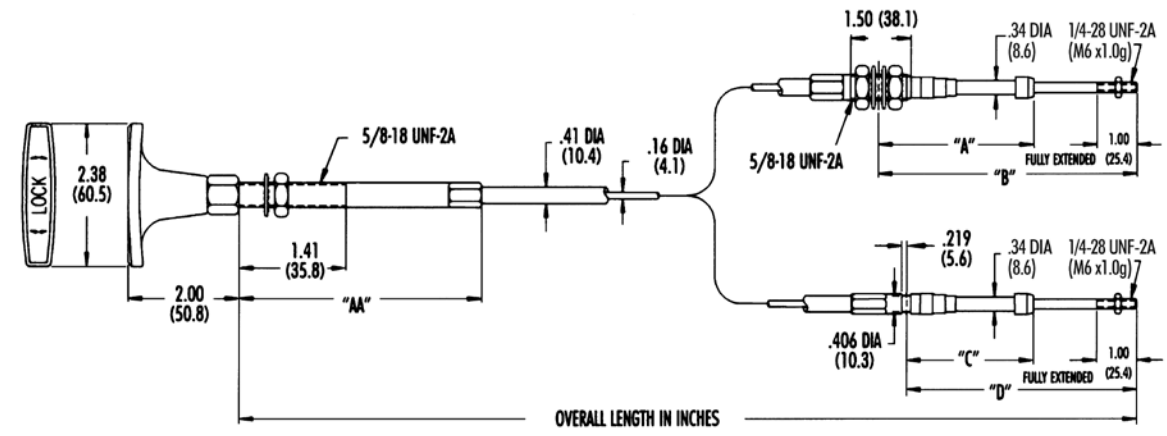
LIGHT DUTY 3 SERIES



HEAVY DUTY 3 SERIES



4 SERIES



Felsted Brand Cable Products Are Available Through A Network Of Local F.A.S.T.® Cable Assemblers
www.orschelnproducts.com

- 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.
- 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
- T-Handle locks in either direction.
- Quick Disconnect Positive Lock Head: see verniers page 12.
- Replacement T-Handle: 49005-1094 with 30073 set screw.

LIGHT DUTY 3 SERIES

Choice of core type:

HP Core – Polymer coated 1 x 7

Solid .075 stainless steel core

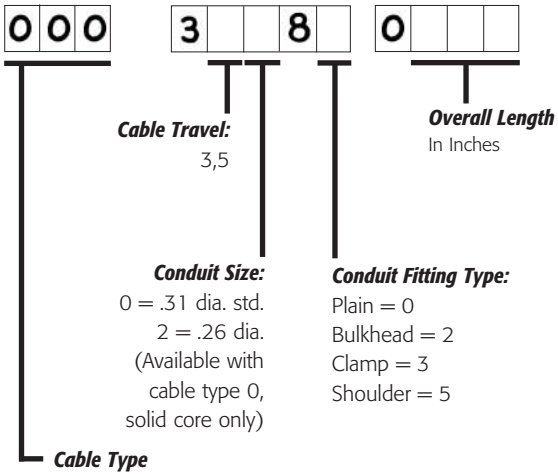
Exposed core

Choice of 4 cable ends

Specifications

Travel Inch/(mm)	*DIM "AA" Inch/(mm)*	*DIM "BB" Inch/(mm)*
3.0 (76.2)	5.25 (133.4)	5.00 (127.0)
5.0 (127.0)	7.25 (184.2)	8.00 (203.2)

Building a Part Number



HEAVY DUTY 3 SERIES

Choice of core type:

HP Core - Polymer coated 1 x 7

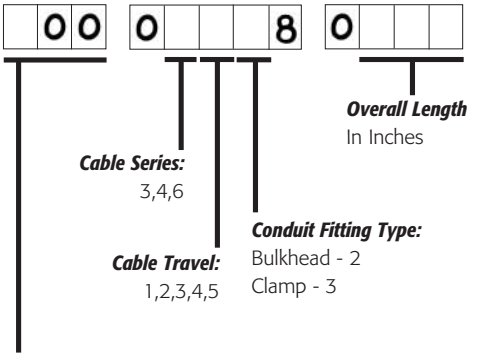
Solid .075 stainless steel core

10-32 Threaded End Rod

Specifications

Travel	*DIM "AA"*	*Bulkhead End*		*Clamp End*		*Operating Loads*	
Inch/(mm)	Inch/(mm)	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)	5.25 (133.4)	3.00 (76.2)	4.94 (125.5)	2.31 (58.7)	4.25 (108.0)	60 (267)	60 (267)
2.0 (50.8)	5.25 (133.4)	4.00 (101.6)	6.94 (176.3)	3.31 (84.1)	6.25 (158.8)	60 (267)	60 (267)
3.0 (76.2)	5.25 (133.4)	5.00 (127.0)	8.94 (227.1)	4.31 (109.5)	8.25 (209.6)	60 (267)	60 (267)
4.0 (101.6)	7.25 (184.2)	6.00 (152.4)	10.94 (277.9)	5.31 (134.9)	10.25 (260.4)	60 (267)	60 (267)
5.0 (127.0)	7.25 (184.2)	7.00 (177.8)	12.94 (328.7)	6.31 (160.3)	12.25 (311.2)	45 (200)	60 (267)

Building a Part Number



M *Metric – see pg. 2*

4 SERIES

HP Core

1/4" - 28 Threaded Rod (output end)

Specifications

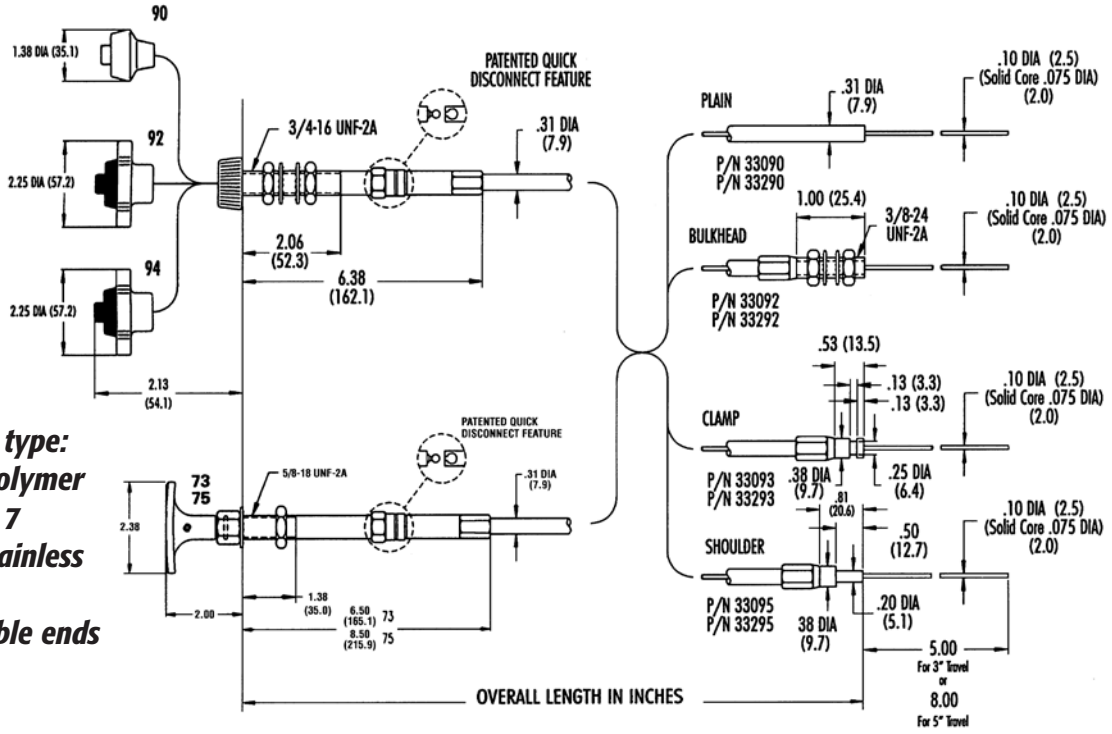
Travel	*DIM "AA"*	*Bulkhead End*		*Clamp End*		*Operating Loads*	
Inch/(mm)	Inch/(mm)	DIM "A" Inch/(mm)	DIM "B" Inch/(mm)	DIM "C" Inch/(mm)	DIM "D" Inch/(mm)	Push Lbs./(N)	Pull Lbs./(N)
1.0 (25.4)	5.25 (133.4)	3.13 (79.5)	5.19 (131.8)	2.50 (63.5)	4.56 (115.8)	120 (534)	120 (534)
2.0 (50.8)	5.25 (133.4)	4.13 (104.9)	7.19 (182.6)	3.50 (88.9)	6.56 (166.6)	120 (534)	120 (534)
3.0 (76.2)	5.25 (133.4)	5.13 (130.3)	9.19 (233.4)	4.50 (114.3)	8.56 (217.4)	120 (534)	120 (534)
4.0 (101.6)	7.25 (184.2)	6.13 (155.7)	11.19 (284.2)	5.50 (139.7)	10.56 (268.2)	100 (445)	120 (534)
5.0 (127.0)	7.25 (184.2)	7.13 (181.1)	13.19 (335.0)	6.50 (165.1)	12.56 (319.0)	75 (334)	120 (534)

Quick Disconnect HP Cables

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

LIGHT DUTY 3 SERIES

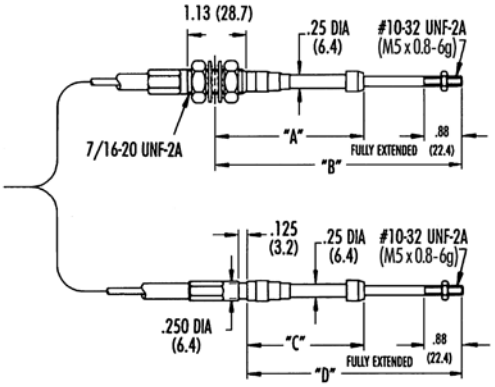
Choice of core type:
HP Core – Polymer coated 1 x 7
Solid .075 stainless steel core
Choice of 4 cable ends
Exposed core



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)

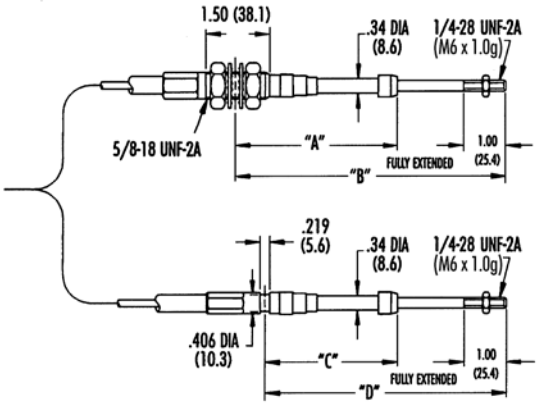
HEAD OPTIONS SEE ABOVE



4 SERIES

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

HEAD OPTIONS SEE ABOVE



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www.orschelnproducts.com

- 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.

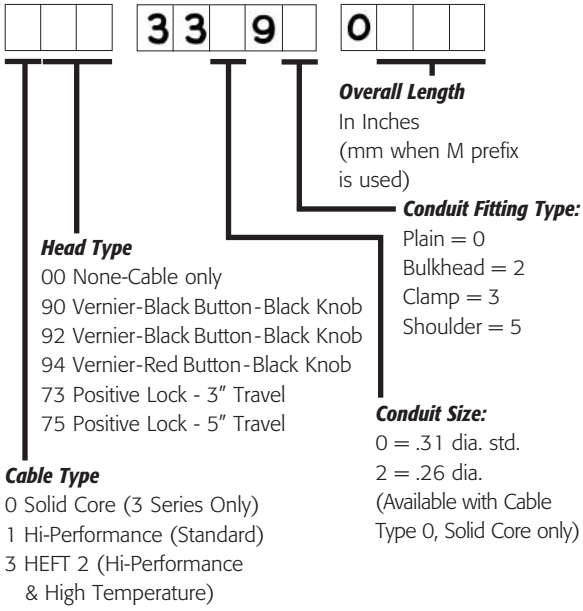
Quick Disconnect Cable Heads
#73 Positive Lock Head – 3" Travel
#75 Positive Lock Head – 5" Travel
#90 Vernier–Small Knob
#92 Vernier–Black Center Button
#94 Vernier–Red Center Button

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



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)

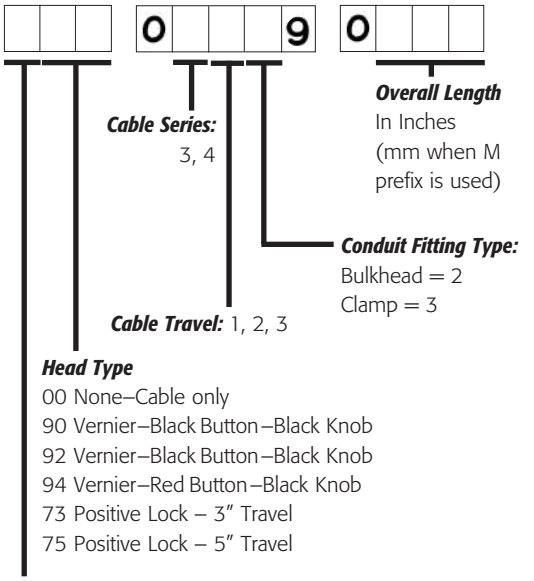
Load Rating: Maximum 20 lbs. is recommended.

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)

Load Rating: Maximum 20 lbs. is recommended.

Building a Part Number

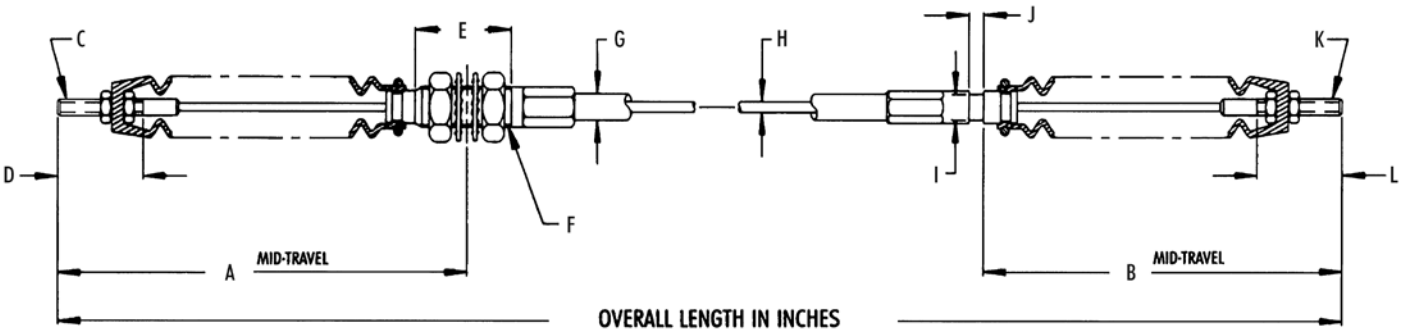


Note: A 3 Series Light Duty Conduit is available. (.26 O.D.) Part Number is 3329X-L.

M *Metric – see pg. 2*

Tension HP Cables

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



- Temperature Range:
  –65 to +225°F / –54 to +107°C Std.
  –65 to +300°F / –54 to +149°C HEFT 2
- HP coated core and polymer liner.

3 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)	4.44 (112.8)	3.75 (95.3)	0	120 (534)
2.0 (50.8)	5.94 (150.9)	5.25 (133.4)	0	120 (534)
3.0 (76.2)	7.44 (189.0)	6.75 (171.5)	0	120 (534)
4.0 (101.6)	8.94 (227.1)	8.25 (209.6)	0	120 (534)
5.0 (127.0)	10.44 (265.2)	9.75 (247.7)	0	120 (534)

4 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)	4.69 (119.1)	4.06 (103.1)	0	230 (1023)
2.0 (50.8)	6.19 (157.2)	5.56 (141.2)	0	230 (1023)
3.0 (76.2)	7.69 (195.3)	7.06 (179.3)	0	230 (1023)
4.0 (101.6)	9.19 (233.4)	8.56 (217.4)	0	230 (1023)
5.0 (127.0)	10.69 (271.5)	10.06 (255.5)	0	230 (1023)

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)

DIMENSIONS	3 SERIES	4 SERIES	6 SERIES
C	#10-32 UNF-2A	1/4-28 UNF-2A	5/16-24 UNF-2A
D	1.25 (31.8)	1.25 (31.8)	1.56 (39.6)
E	1.13 (28.7)	1.50 (38.1)	1.75 (44.5)
F	7/16-20 UNF-2A	5/8-18 UNF-2A	11/16-16 UNF-2A
G	.31 DIA (7.9)	.41 DIA (10.4)	.51 DIA (13.0)
H	.08 DIA (2.0)	.13 DIA (3.3)	.18 DIA (4.6)
I	.250 DIA (6.4)	.406 DIA (10.3)	.469 DIA (11.9)
J	.125 (3.2)	.219 (5.6)	.219 (5.6)
K	#10-32 UNF-2A	1/4-28 UNF-2A	5/16-24 UNF-2A
L	1.25 (31.8)	1.25 (31.8)	1.56 (39.6)

Building a Part Number



Overall Length
In Inches
(mm when M prefix is used

Cable Series:
3,4,6

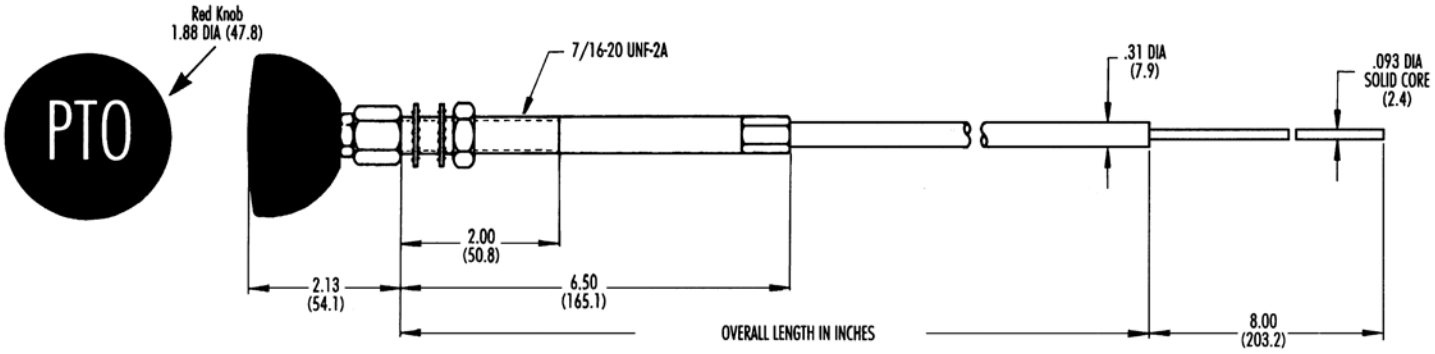
Cable Travel:
1,2,3,4,5

Conduit Fitting Type:
Bulkhead - 2
Clamp - 3

Cable Type:
1 Hi-Performance (Standard)
3 HEFT 2 (Hi-Performance & High Temperature)

PTO Cables

- Power take off operation
- .093 Solid Stainless Steel Core
- Full 5" travel
- 6" Bend radius



Power Take Off Cables

Red knob - standard
Temperature Range:
–65 to +225°F / –54 to +107°C Std.

Building a Part Number

0	0	0	3	5	0	0	0			

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

RVO Cables

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

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

Building a Part Number

	0	0	4	5	6			0			

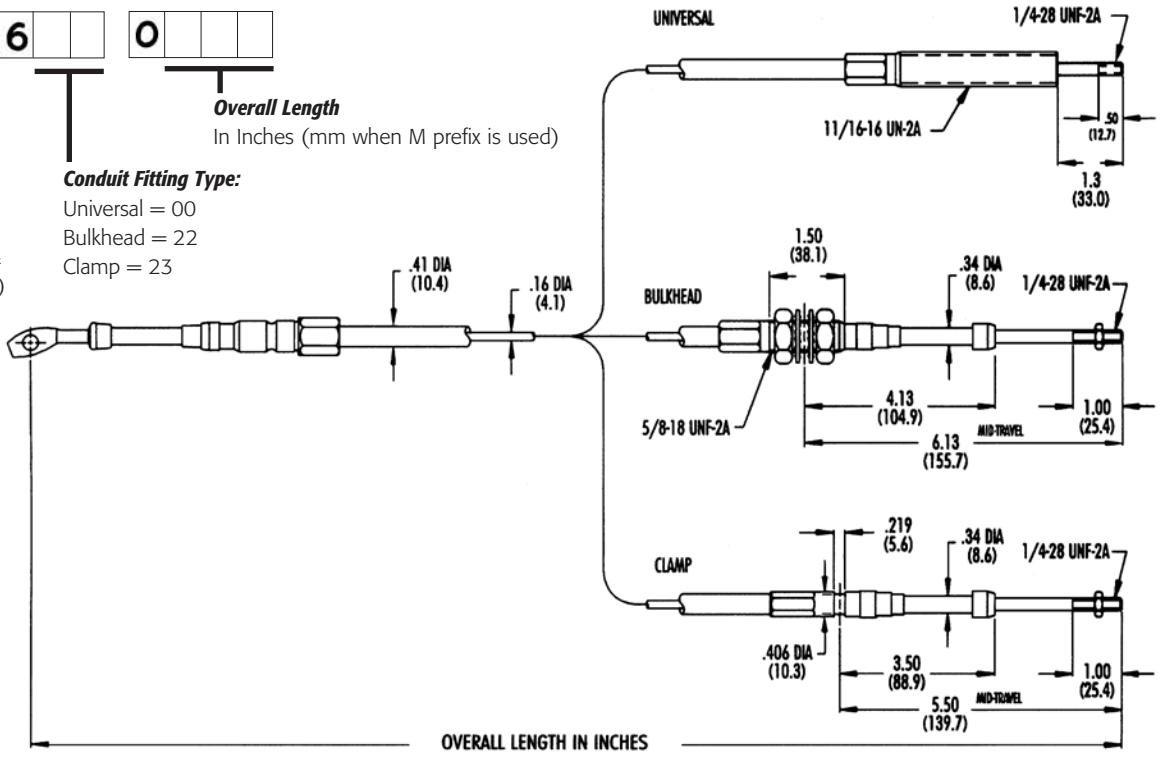
Cable Type:
1 Hi-Performance (Standard)
3 HEFT 2 (Hi-Performance & High Temperature)

Conduit Fitting Type:
Universal = 00
Bulkhead = 22
Clamp = 23

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

Connects to Felsted Brand Remote Valve Controls
55700
55709
55786-1

Valve Connection Kit End

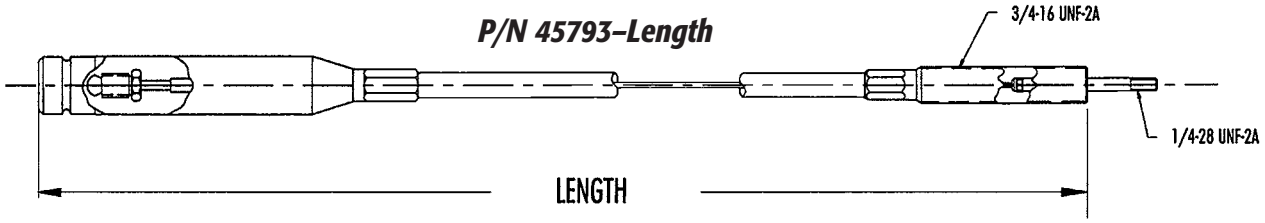


RVC Cables

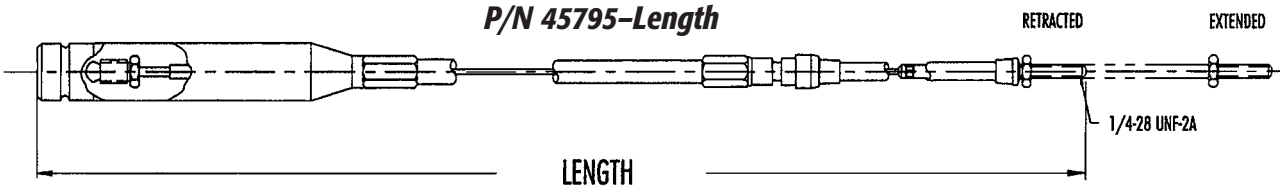
- Remote Valve Control Cables
- Fits Morse RVC Controls

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

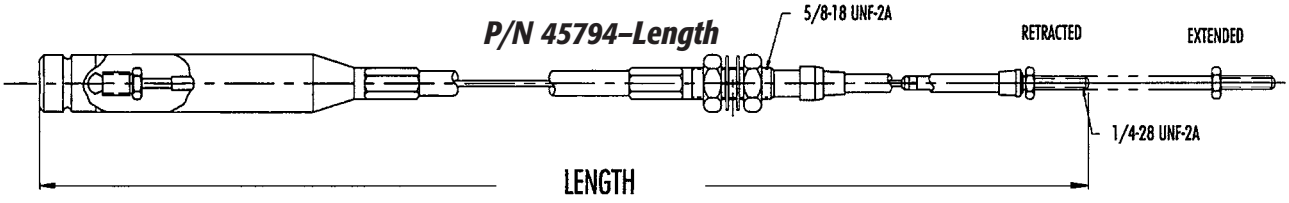
P/N 45793–Length



P/N 45795–Length



P/N 45794–Length

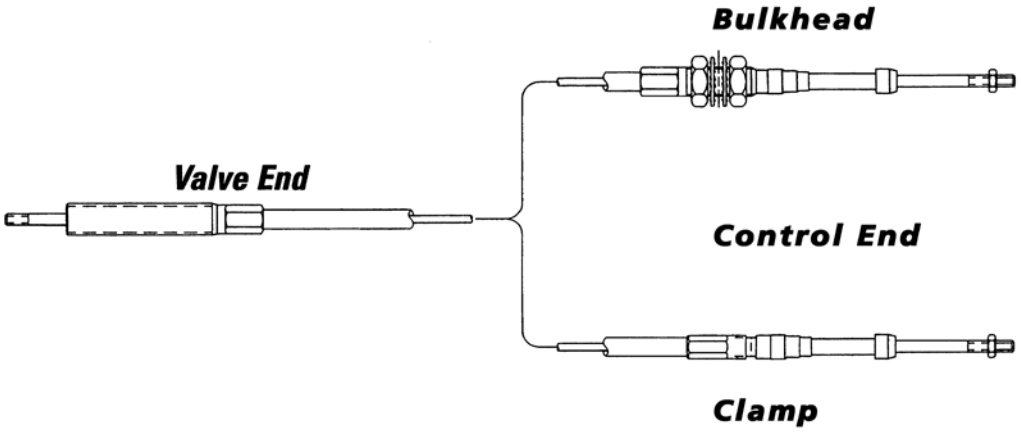


Special Valve Control Cables

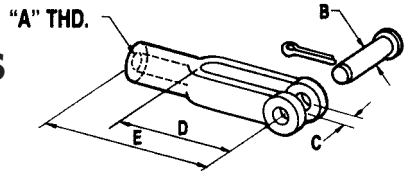
- HD lever applications
- Remote valve dump body control use • HP cable construction

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

Base Part Number	OAL inches	Valve End Connection	Control End Connection
100 45630	0	11/16" –16 thread connects to valve connection kit	5/8"-18 bulkhead hub connects to an HD Lever
100 45639	0	11/16" –16 thread connects to valve connection kit	Clamp hub connects to a 55781-2 dump body control shifter
100 45734	0	11/16" –16 thread connects to valve connection kit	Clamp hub connects to a 3" mounting dump body control shifter
100 45796	0	3/4"–16 thread connects to valve connection kit	Clamp hub connects to a 55781-2 dump body control shifter



CLEVISES



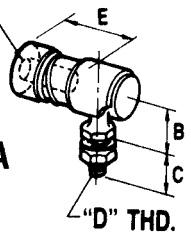
Part #	A	B	C	D	E
3 SERIES					
39003-1 **	10-32 UNF-2B	3/16″ (4.8mm)	7/32″ (5.6mm)	1″ (25.4mm)	1-9/16″ (39.7mm)
49003-2	10-32 UNF-2B	1/4″ (6.4mm)	9/32″ (7.1mm)	1-1/4″ (31.8mm)	2″ (50.8mm)
69003-2 *	10-32 UNF-2B	5/16″ (7.9mm)	11/32″ (8.7mm)	1-7/16″ (36.5mm)	2-1/4″ (57.2mm)
4 SERIES					
49003-1	1/4-28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

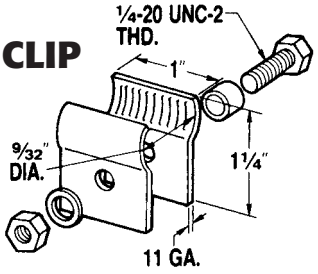
BALL JOINT

TYPE A



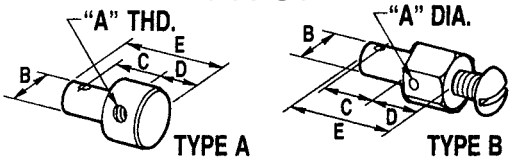
Part #	Type	A	B	C	D	E
3 SERIES						
39006	A	10-32 UNF-2B	15/32″ (11.9mm)	9/16″ (14.3mm)	1/4-28 UNF-2A	31/32″ (24.6mm)
4 SERIES						
49006	A	1/4-28 UNF-2B	15/32″ (11.9mm)	9/16″ (14.3mm)	1/4-28 UNF-2A	31/32″ (24.6mm)
49007	A	1/4-28 UNF-2B	15/32″ (11.9mm)	7/8″ (22.2mm)	5/16-24 UNF-2A	31/32″ (24.6mm)
6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



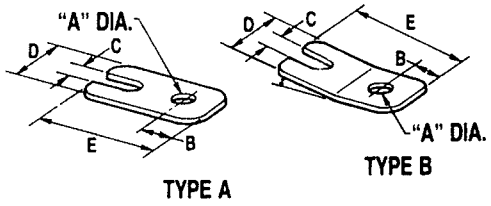
Type B
Part No. 39064-1

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)

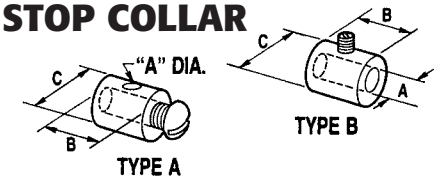
CLIP BRACKET



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 Stainless	A	9/32″ (7.5mm)	3/8″ (9.5mm)	1/4″ (6.4mm)	5/8″ (15.9mm)	1-5/16″ (33.3mm)
39004-2 Plated Steel	A	9/32″ (7.5mm)	3/8″ (9.5mm)	1/4″ (6.4mm)	5/8″ (15.9mm)	1-5/16″ (33.3mm)

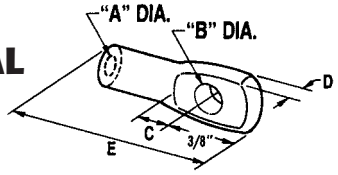
**Consult factory for leadtime and availability.*

STOP COLLAR



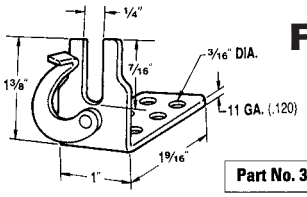
Part #	Type	A	B	CD	
3 SERIES					
30103	A	7/64″ (2.8mm)	5/16″ (7.9mm)	5/16″ (7.9mm)	– –
4 SERIES					
40081	A *	3/16″ (4.8mm)	5/16″ (7.9mm)	5/16″ (7.9mm)	– –
49043	B	3/16″ (4.8mm)	1/4″ (6.4mm)	7/16″ (11.1mm)	– –

TERMINAL EYES



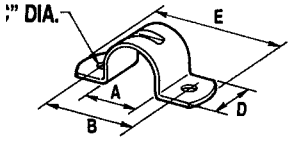
Part #	A	B	C	D	E
3 SERIES					
49004-4 *	10-32 UNF-2B	1/8″ (3.2mm)	5/8″ (15.9mm)	3/8″ (9.5mm)	1-7/8″ (47.6mm)
4 SERIES					
49004-1	1/4-28 UNF-2B	5/16″ (7.9mm)	5/8″ (15.9mm)	3/8″ (9.5mm)	1-7/8″ (47.6mm)
49004-2 *	1/4-28 UNF-2B	1/2″ (12.7mm)	5/8″ (15.9mm)	3/8″ (9.5mm)	1-7/8″ (47.6mm)
49004-3	1/4-28 UNF-2B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

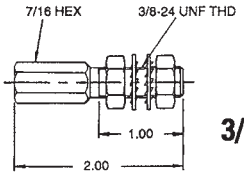
CLAMP



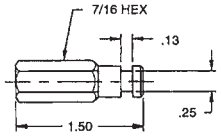
Part #	A	B	C	D	E
3 SERIES					
39001	3/8″ (9.5mm)	1″ (25.4mm)	13/64″ (5.2mm)	1/2″ (12.7mm)	1-1/2″ (38.1mm)
4 SERIES					
49001	1/2″ (12.7mm)	1″ (25.4mm)	7/32″ (5.6mm)	1/2″ (12.7mm)	1-1/2″ (38.1mm)
6 SERIES					
69001	9/16″ (14.3mm)	1-1/4″ (31.8mm)	9/32″ (7.1mm)	5/8″ (15.9mm)	1-5/8″ (41.3mm)

Field Hub Kits for Standard Felsted 3 Series Cables

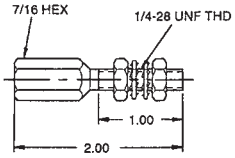
(Solid or HP Core) • (Conduit Outside Diameter of .31″)



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

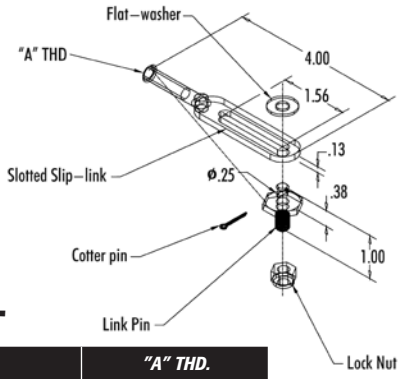


Kit #39067-3
CLAMP HUB



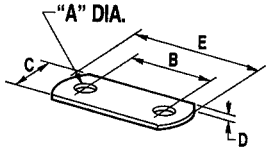
Kit #39067-4
1/4-28 THD HUB

SLIP LINK KIT



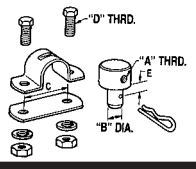
Kit Number		"A" THD.
Polymer	59049-1 59049-2	10-32 UNF-2A 1/4-28 UNF-2A
Metal	M00-59049-1 M00-59049-2	10-32 UNF-2A 1/4-28 UNF-2A

SHIM

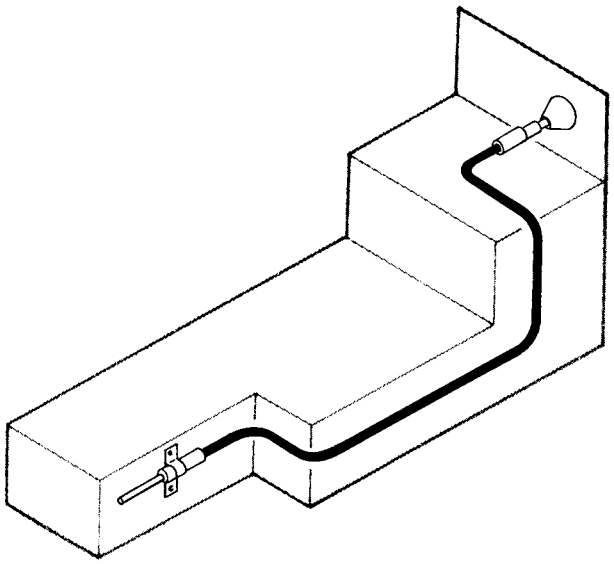


Part #	A	B	C	D	E
3 & 4 SERIES					
39002	13/64″ (5.2mm)	1″ (25.4mm)	1/2″ (12.7mm)	3/32″ (2.4mm)	1-1/2″ (38.1mm)
6 SERIES					
69002	9/32″ (7.5mm)	1-1/4″ (31.8mm)	5/8″ (15.9mm)	5/64″ (2.0mm)	1-3/4″ (44.5mm)

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)



Routing/Measuring

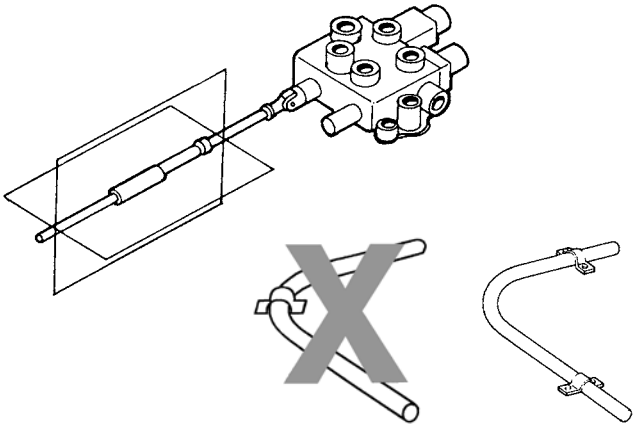
Measure the cable along the path it will take from the points where the cable hubs will be anchored. Follow the actual cable path as closely as possible, allowing for the largest practical bend radii.

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*

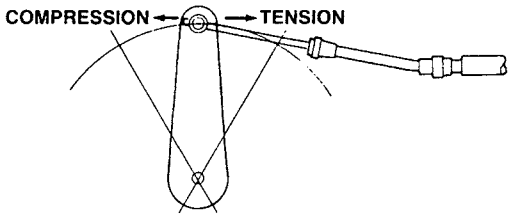
Installation Notes: Control & Work End

Where a Felsted Brand 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:

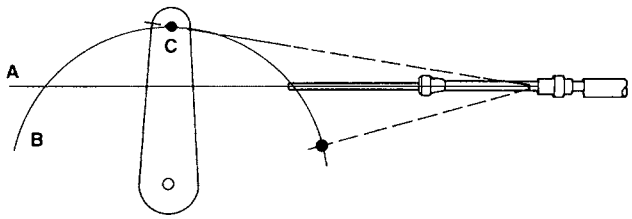


It is important to securely anchor the cable hubs. Looseness of the mounting bracket will be perceived as lost motion "sponginess" and will inhibit detent feel.

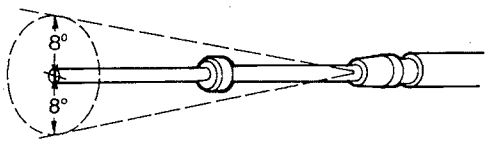
Also, clamping in the bend area may reduce bend radii under operating loads. Clamping at tangents to the bend is preferred.



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

check » shift » accelerate » park

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TRUCK



BUS



CONSTRUCTION



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Specifications subject to change without notice.