

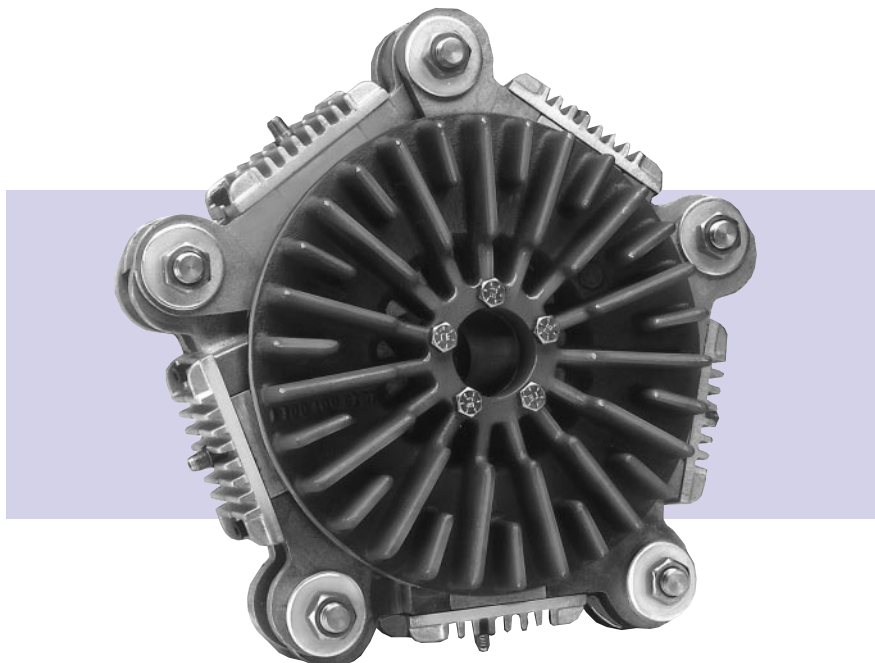
# Pneumatic Brakes

## AD Series – Air Disc® Brakes

The Wichita Clutch Air Disc is a pneumatic unwind brake for those heavy-duty applications where high thermal capacity and/or high tension requirements exceed the range of electrically actuated products.

The Wichita Clutch Air Disc pneumatic brake offers effective web control under heavy working conditions through innovative engineering features such as low inertia and high thermal conductivity rotor discs, which allow high work loads and still afford control as the roll reaches core.

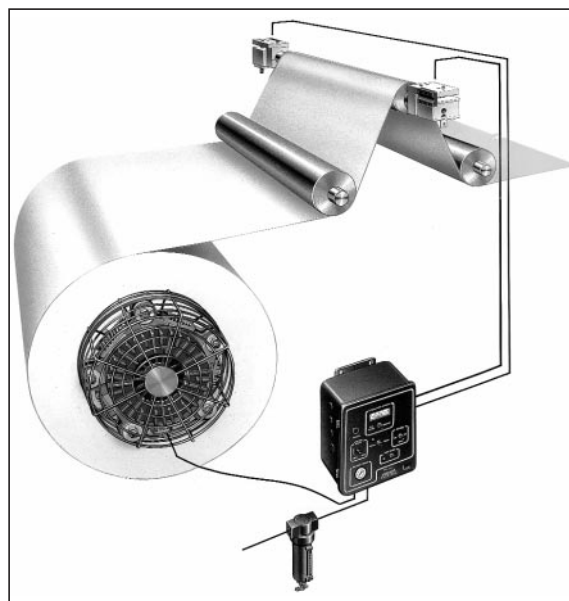
Unique actuators float freely to compensate for run-out and less than ideal roll conditions. Simple pad replacement makes maintenance a breeze – especially when factoring in the long life of the components.



### Typical Applications



**Dancer  
Tension Control System**



**Load Cell  
Control System**



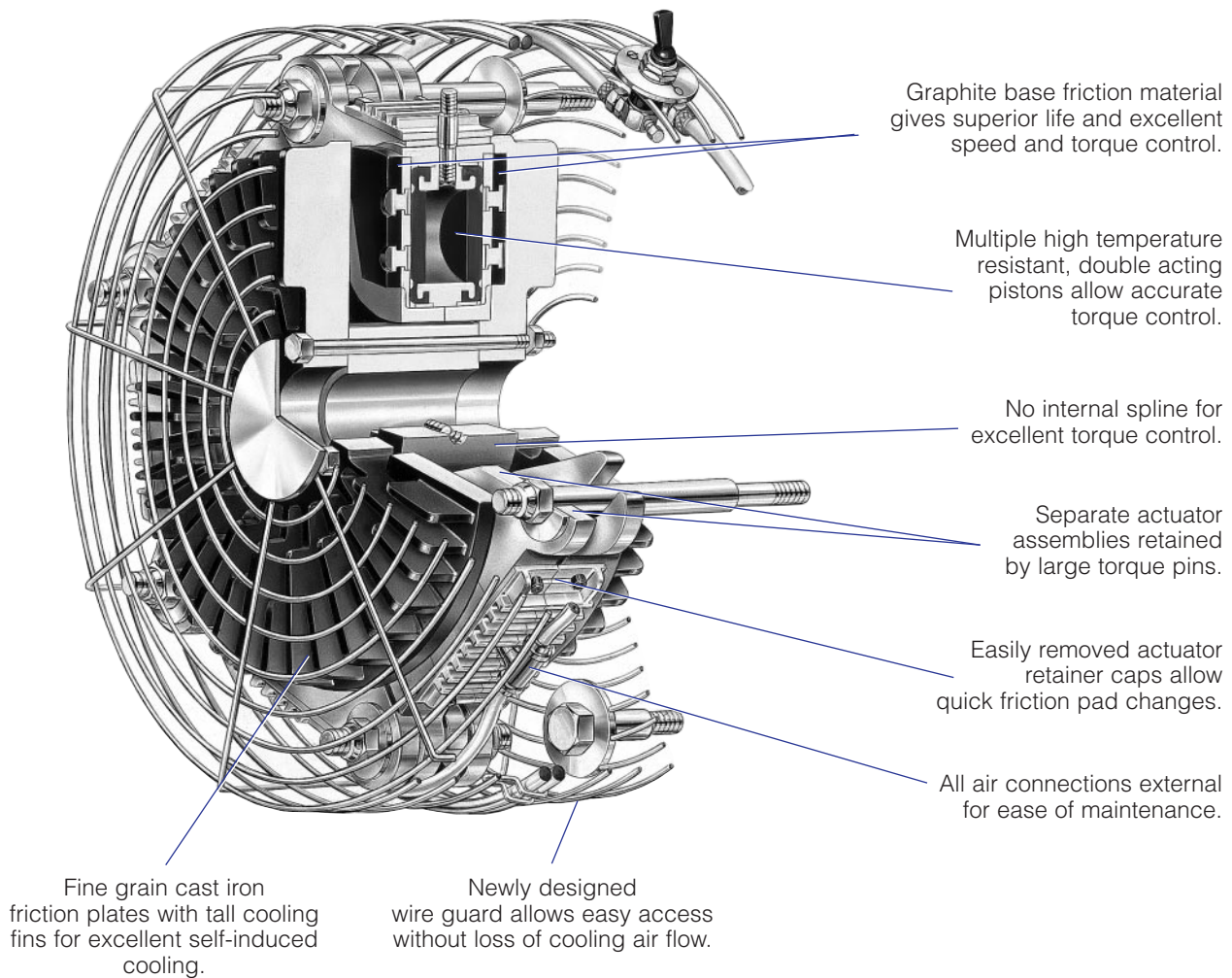
**Analog  
Tension Control System**

### Features

The Wichita Clutch Air Disc has broad ranges of both torque and heat capacities, which allow the system to be applied virtually anywhere a need for unwind control exists.

Although the torque and heat capacity will vary with the speed and air pressure of the application, the charts and tables on page 128 demonstrate the general capabilities of the product.

*Torque control range easily maintained with external switching valves*



# Pneumatic Brakes

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### Selection

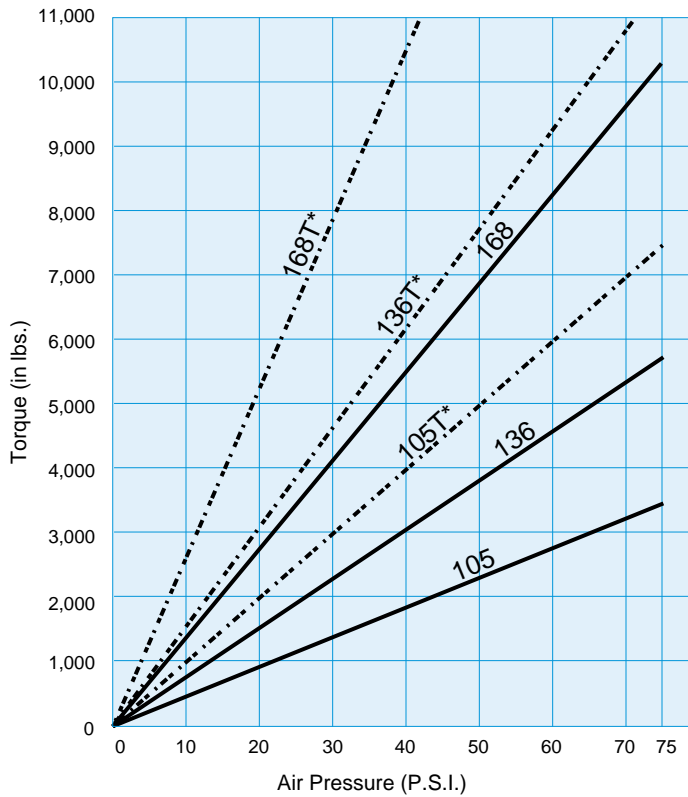
Selecting any tension braking device requires consideration of many interrelated factors. By using the data sheet on page 13, the correct sizing information can be organized. Provisions for selection calculations are also made on this form.

If you need assistance, please copy this form and forward it to Wichita Clutch. Your local Wichita Clutch market representative or your local Wichita Clutch Authorized Distributor can also provide selection assistance.

### Torque Characteristics

Torque produced by the Air Disc is proportional to the air pressure applied. Refer to the chart at the right to see the relationship of air pressure to torque.

Torque Characteristics



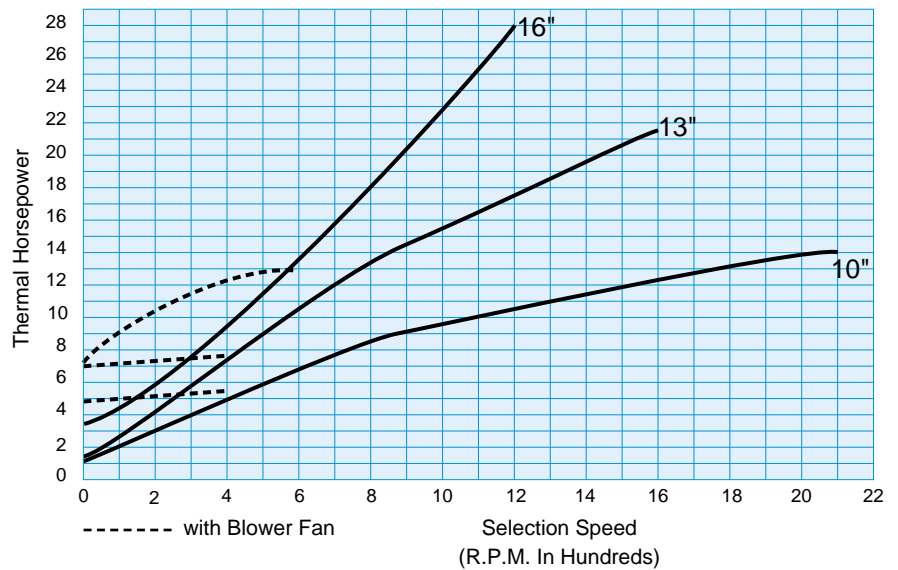
NOTE: Torque is proportional to air pressure as shown above.

### Rotor Inertia and Weights

Brake Size	Rotor and Hub* Total Weight (Lbs)	Total Brake Inertia (lb.ft. <sup>2</sup> )
10"	28.3	2.6
13"	53.2	6.5
16"	81.0	23.7

\*Both Rotor and Hub Rotate

Table 2. Thermal Horsepower



**Table 3. Capacities**

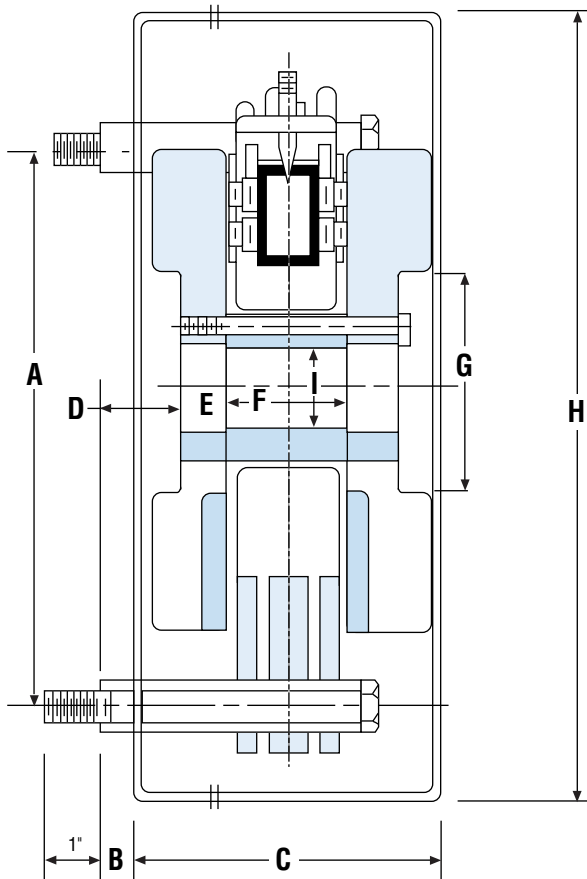
Model No.	Dia. of Friction Plates	No. of Actuators	Approx. Total Weight (lbs.)	Max Speed (RPM)	Rated Torque At 75 P.S.I. Air Pressure (lb.in./lb.ft.)
101	10"	1	50	3,800	700/58
101T	10"	1	50	3,800	1,470/120
102	10"	2	53	3,800	1,400/117
102T	10"	2	53	3,800	2,940/245
103	10"	3	56	3,800	2,100/175
103T	10"	3	56	3,800	4,410/365
104	10"	4	59	3,800	2,800/233
104T	10"	4	59	3,800	5,880/490
105	10"	5	62	3,800	3,500/292
105T	10"	5	62	3,800	7,350/610
131	13"	1	78	3,000	950/79
131T	13"	1	78	3,000	1,995/165
132	13"	2	81	3,000	1,900/158
132T	13"	2	81	3,000	3,990/330
133	13"	3	84	3,000	2,850/238
133T	13"	3	84	3,000	5,985/495
134	13"	4	87	3,000	3,800/317
134T	13"	4	87	3,000	7,980/665
135	13"	5	90	3,000	4,750/396
135T	13"	5	90	3,000	9,975/830
136	13"	6	93	3,000	5,700/475
136T	13"	6	93	3,000	11,970/995
161	16"	1	111	2,400	1,275/106
161T	16"	1	111	2,400	2,675/220
162	16"	2	114	2,400	2,550/213
162T	16"	2	114	2,400	5,355/445
163	16"	3	117	2,400	3,825/319
163T	16"	3	117	2,400	8,030/665
164	16"	4	120	2,400	5,100/425
164T	16"	4	120	2,400	10,710/890
165	16"	5	123	2,400	6,375/531
165T	16"	5	123	2,400	13,385/1,115
166	16"	6	126	2,400	7,650/638
166T	16"	6	126	2,400	16,065/1,335
167	16"	7	129	2,400	8,926/744
167T	16"	7	129	2,400	18,745/1,560
168	16"	8	132	2,400	10,200/850
168T	16"	8	132	2,400	21,420/1,785

"T" Designates high coefficient friction material. Available as an option upon request.

# Pneumatic Brakes

## AD Series – Air Disc® Brakes

### Dimensions



Model No.	A	B	C	D	E	F	G
101-105	13.00	.75	6.25	1.59	.88	2.72	6.00
131-136	14.75	.75	6.25	1.59	.88	2.72	8.00
161-168	17.50	1.25	6.25	2.09	.88	2.72	10.50

H	Max. Bore Rect. Key		J	K
	Max.	Min.		
16.60	1.875	1.0	5/8"-11	5
18.00	3.000	1.0	5/8"-11	6
21.50	4.500	1.0	5/8"-11	8

J = Size of Mounting Bolts  
K = Number of Mounting Bolts

### Guard and Hose Kits

Size	Basic Unit	Guard Kit	Hose Kit
101	7-810-100-100-5	4-610-021-009-3	8-610-070-007-1
102	7-810-200-100-5	4-610-021-009-3	8-610-070-007-2
103	7-810-300-100-5	4-610-021-009-3	8-610-070-007-3
104	7-810-400-100-5	4-610-021-009-3	8-610-070-007-4
105	7-810-500-100-5	4-610-021-009-3	8-610-070-007-5
131	7-813-100-100-5	4-613-021-010-3	8-613-070-007-1
132	7-813-200-100-5	4-613-021-010-3	8-613-070-007-2
133	7-813-300-100-5	4-613-021-010-3	8-613-070-007-3
134	7-813-400-100-5	4-613-021-010-3	8-613-070-007-4
135	7-813-500-100-5	4-613-021-010-3	8-613-070-007-5

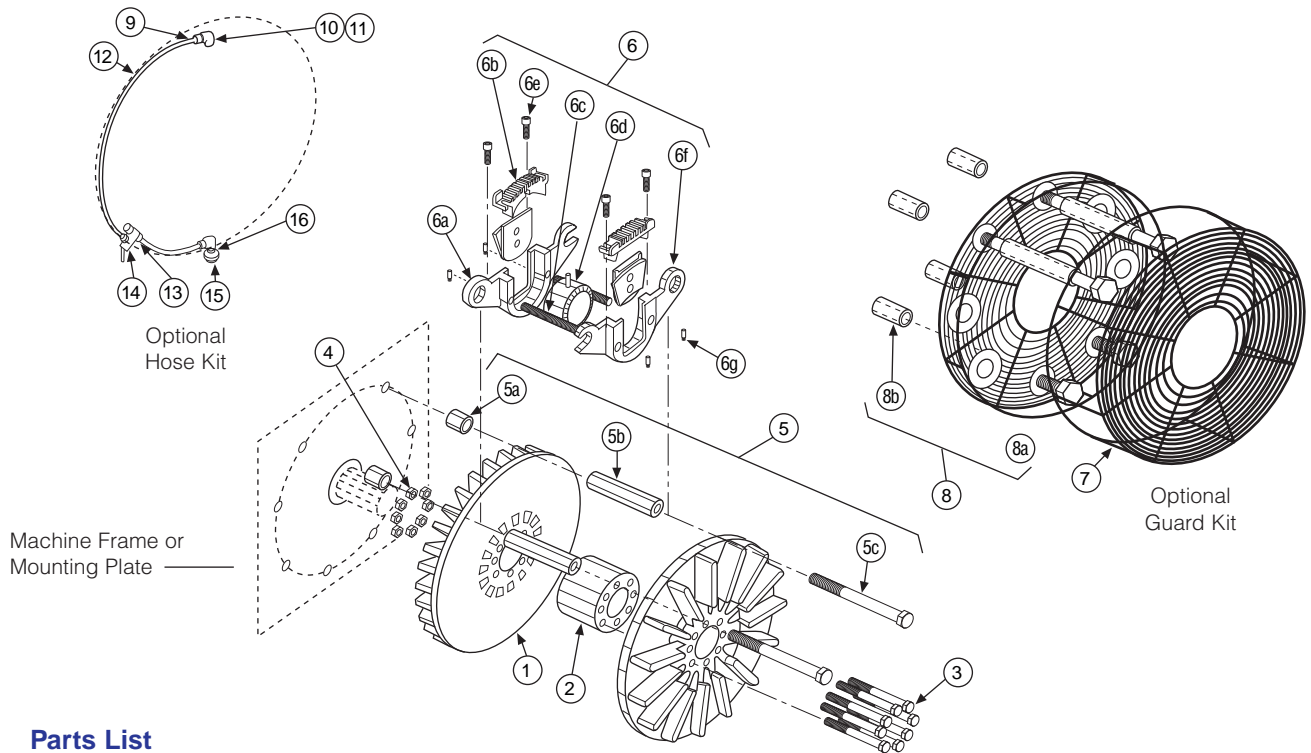
Size	Basic Unit	Guard Kit	Hose Kit
136	7-813-600-100-5	4-613-021-010-3	8-613-070-007-6
161	7-816-100-100-5	4-616-021-007-3	8-616-070-007-1
162	7-816-200-100-5	4-616-021-007-3	8-616-070-007-2
163	7-816-300-100-5	4-616-021-007-3	8-616-070-007-3
164	7-816-400-100-5	4-616-021-007-3	8-616-070-007-4
165	7-816-500-100-5	4-616-021-007-3	8-616-070-007-5
166	7-816-600-100-5	4-616-021-007-3	8-616-070-007-6
167	7-816-700-100-5	4-616-021-007-3	8-616-070-007-7
168	7-816-800-100-5	4-616-021-007-3	8-616-070-007-8

#### Notes:

1. Wichita Clutch does not recommend using a hose kit without a guard kit.
2. The guard kit uses the bolt spacer kit that comes with the basic unit kits for mounting. Using the 10" guard with a unit with fewer than 3

actuators requires one guard bolt spacer kit. 13" & 16" guard kits require two guard bolt spacer kits when utilizing fewer than 4 and 6 actuators, respectively. With 4 and 6 actuators, only one guard bolt spacer kit is required. No guard bolt spacer kit is required with 5 or 7 actuators.

### Component Parts



### Parts List

Item Description	10" Rotor	13" Rotor	16" Rotor
<b>Basic Brake</b>			
1. Friction Plate	4-610-001-001-1	4-613-001-001-1	4-616-001-001-1
2. Hub	4-610-001-002-3	4-613-001-000-3	4-616-001-000-3
3. HHCS 3/8 x 5"	2-173-037-050-0	2-173-037-050-0	2-173-037-050-0
4. Nut 3/8	2-112-037-012-0	2-112-037-012-0	2-112-037-012-0
5. Bolt/Spacer Kit	8-610-010-001-0	8-610-010-001-0	8-610-010-001-0
5.a Short Spacer	4-616-015-000-3	4-616-015-000-3	4-616-015-000-3
5.b Spacer	4-613-015-002-3	4-613-015-002-3	4-613-015-002-3
5.c HHCS 5/8 x 7"	2-173-062-070-0	2-173-062-070-0	2-173-062-070-0
6. Airtube Carrier Assembly	8-610-002-001-5	8-613-002-003-5	8-616-002-001-5
6.a Airtube Carrier	4-610-002-001-5	4-613-002-003-5	4-616-002-001-5
6.b Airtube Carrier Cap	4-613-002-004-5	4-613-002-004-5	4-613-002-004-5
6.c Spring	4-613-033-000-4	4-613-033-000-4	4-613-033-000-4
6.d Airtube Assembly	8-613-020-008-0	8-613-020-008-0	8-613-020-008-0
6.e SHCS 1/4 x 3/4"	2-177-025-006-0	2-177-025-006-0	2-177-025-006-0
6.f Friction Puck Assembly	8-613-007-000-0	8-613-007-000-0	8-613-007-000-0
6.g Spring Pin	4-613-033-001-4	4-613-033-001-4	4-613-033-001-4
<b>Guard Kit</b>			
7. Guard	4-610-021-009-3	4-613-021-010-3	4-616-021-007-3
8. Guard Bolt/Spacer Kit	8-610-010-002-0	8-610-010-002-0	8-610-010-002-0
8.a HHCS 5/8 x 2 1/4	2-173-062-022-0	2-173-062-022-0	2-173-062-022-0
8.b Short Spacer	4-616-015-000-3	4-616-015-000-3	4-616-015-000-3
<b>Hose Kit</b>			
9. Coupling 1/8 x 1/8	4-613-072-006-0	4-613-072-006-0	4-613-072-006-0
10. Elbow 1/8 x 10-32	4-613-072-007-0	4-613-072-007-0	4-613-072-007-0
11. Tee 10-32 x 10-32 x 1/8	4-613-072-008-0	4-613-072-008-0	4-613-072-008-0
12. Teflon Tubing	4-610-074-001-0	4-610-074-001-0	4-610-074-001-0
13. 10-32 Hex Plug	4-613-072-004-0	4-613-072-004-0	4-613-072-004-0
14. 3-Way Switch	4-613-071-002-0	4-613-071-002-0	4-613-071-002-0
15. 10-32 Straight Fitting	4-613-072-002-0	4-613-072-002-0	4-613-072-002-0
16. Washer	4-137-050-111-0	4-137-050-111-0	4-137-050-111-0
17. Extension 1/8	2-308-001-001-0	2-308-001-001-0	2-308-001-001-0