



**Specification for Type ST Plug-in Relay
Biased Neutral Relay
High D.A./ P.U. Ratio
4FB Contacts, 2000 Ohm**

Characteristic		Original Requirements	Contact/Coil Arrangement	
Coils	Nominal V or I	18-24 Volts	<p align="center">(Front of Relay)</p>	
	Resistance/Tolerance	1000 Ohms ±5% Each Coil		
	Temperature Range	-40C (-40F) to 85C (185F)		
P.U./W.C.	Voltage	12 Volts Maximum		
	Current	6 milliamps Maximum		
	Speed	Pickup		Regular
Dropaway	Voltage	9.0 Volts Minimum		
	Current	4.5 milliamps Minimum		
	Speed	Release		Regular
Contacts	Arrangement	4FB		<p align="center">Relay register (Rear of Relay)</p>
	Rating	4 Amps/30 Volts		
	Material	N.O.	Silver/Carbon	
		N.C.	Silver/Silver	
	Dynamic Gap	.020" Minimum		
	Contact Gap	.050" Minimum		
	Pressure	N.O.	40 Grams Minimum	
		N.C.	14 Grams Minimum	
	Overtravel per Adjustment F	*See Notes Below		
	Resistance	N.O.	90 milliohms Maximum @10 VDC, 1.0 Amps	
N.C.		30 milliohms Maximum @10 VDC, 1.0 Amps		
Armature Travel	.073" Minimum			
Retainer Gap Reference	.002" to .004"			
Residual Screw (Adjustable)	.020" Minimum Top Core .040" Minimum Bottom Core			
Stop Pin (Fixed)	.008" Minimum			

Notes

- #1 N.O. Contacts to make with .029" and break with .034" between armature residual screw and core.
N.C. Contacts to make with .057" and break with .052" between armature residual screw and core.
- #2 Adjust armature compression spring to have one ounce (28.4 grams) minimum at the adjustable residual screw to just raise the armature stop screw from its stop.

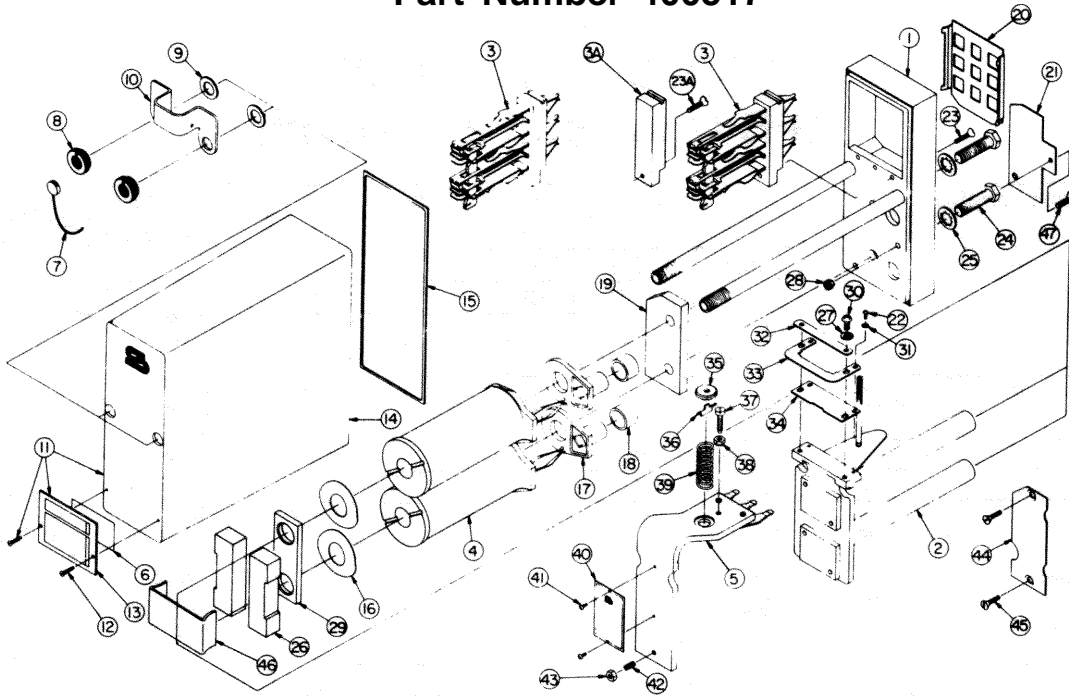
Field Requirements

Drop Away Value — Not less than 85% of original marking.
Pickup/Working Value — Not greater than 110% of original marking.

Shop Requirements

Drop Away Value — Not less than 95% of original marking.
Pickup/Working Value — Not greater than 105% of original marking.

Type ST Plug-in Relay Assembly and Replacement Parts Part Number 400517



To order, specify description and part number.

Item No.	Description	Qty. Req'd.	Part Number	Item No.	Description	Qty. Req'd.	Part Number
1	Base Assembly, Plug-in Relay	1	420050-X	23A	Machine Screw, Flat Head, #6-32 X .375"	1	420052-2
2	Frame Assembly, Coil	1	420053-71X	24	Machine Screw, Hex Head, 5/16"-24 X 1.125"	2	420053-12
3	Stack, 2F Contact	2	420052-1X	25	Washer, Spring Lock, I, 5/16"	2	420053-13
3A	Stack, Blank	1	420052-3	26	Magnet	2	420053-47
4	Coil Assembly, 1000 Ohm	2	420051-51X	27	Washer, Spring Lock, I, #8	3	420050-33
5	Armature	1	420053-5X	28	Nut, Hex, #8-32 X .345"	1	420053-8
6	Label, Paper Identification	1	420050-3	29	Plate, Shunting	2	420053-79
7	Seal, Lead	1	420050-8	30	Machine Screw, Pan Head, #8-32 x .375"	2	420053-16
8	Nut, Knurl, Locking	2	420050-5	31	Washer, Spring Lock, I, #4	2	420053-15
9	Washer, Flat Rubber	2	420050-7	32	Plate, Retainer	1	420053-3
10	Bracket, Cover	1	420050-4	33	Retainer, Armature	1	420053-2
11	Cover Assembly	1	420050-2X	34	Plate, Hinge	1	420053-1
12	Tap Screw, Round Head, #4 X .375"	2	420050-35	35	Nut, Spring Post	1	420053-6
13	Cover, Nameplate	1	420050-2	36	Key, Spring Retainer	1	420053-5
14	Molded Cover, Clear	1	420050	37	Screw, Tailstop	1	420053-9
15	Gasket, Cover	1	420050-1	38	Nut, Tailstop	1	420053-8
16	Washer, Spring	2	420053-7	39	Spring, Compression	1	420053-43
17	Insulator, Terminal Retainer	2	420051	40	Nameplate, Type ST Relay	1	420053-146
18	Seal, Rubber	2	420051-1	41	Phillips Screw, Pan Head, #4-40 X .187"	2	420053-18
19	Plate, Base	1	420053	42	Screw, Residual	1	420053-11
20	Seal, Dust	1	420052	43	Nut, Residual	1	420053-10
21	Plate, Code	1	420050-544	44	Plate, Code Pin	1	420050-133
22	Machine Screw, Fillister Head, #4-40 X .250"	2	420053-14	45	Machine Screw, Flat Head, #6-32 X .5"	2	420050-36
23	Machine Screw, Flat Head, #6-32 X .531"	2	420050-36	46	Clip, Spring	1	420053-46
				47	Screw, Flat Head, #8-32 X .345"	1	420053-88

Safetran Systems Corporation
2400 Nelson Miller Parkway
Louisville, Kentucky 40223
502-244-7400