



F.A.S.T. DISTRIBUTOR

Mechanical Controls

Shifters, Throttles and Transmission Controls, Modulators



TRASMITEC S.A.S di Gastaldi Marco & C. - Via A. De Francisco, 127 - 10036 Settimo Torinese (TO)
Tel. +39 011.8960020 - Fax. +39 011.8211692 - www.trasmittec.it - email: info@trasmittec.it

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

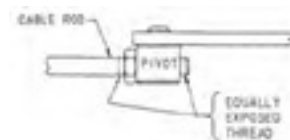
1. Verify Proper Installation

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.

T-Handle and Push Button Shifters

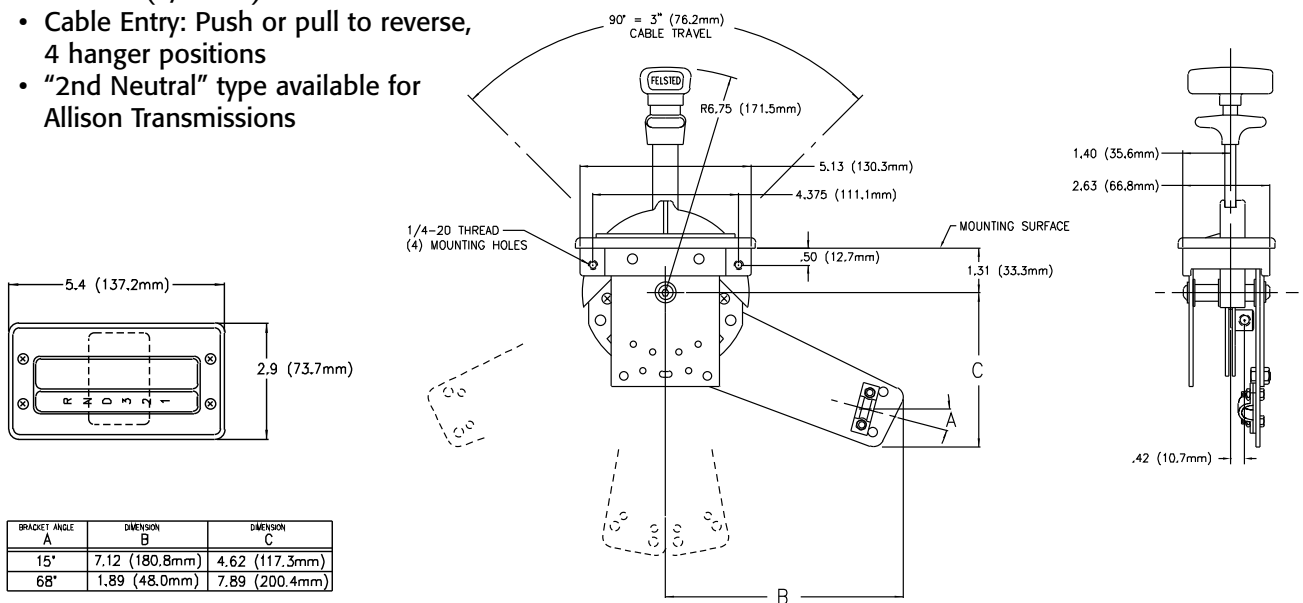
The T-Handle and Push Button shifters are time proven designs for rugged operation in trucks and buses. They have flexible options available and the T-Handle can be custom assembled by many of our F.A.S.T. distributors.



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



Transmission Models		B A S I C N U M B E R			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.

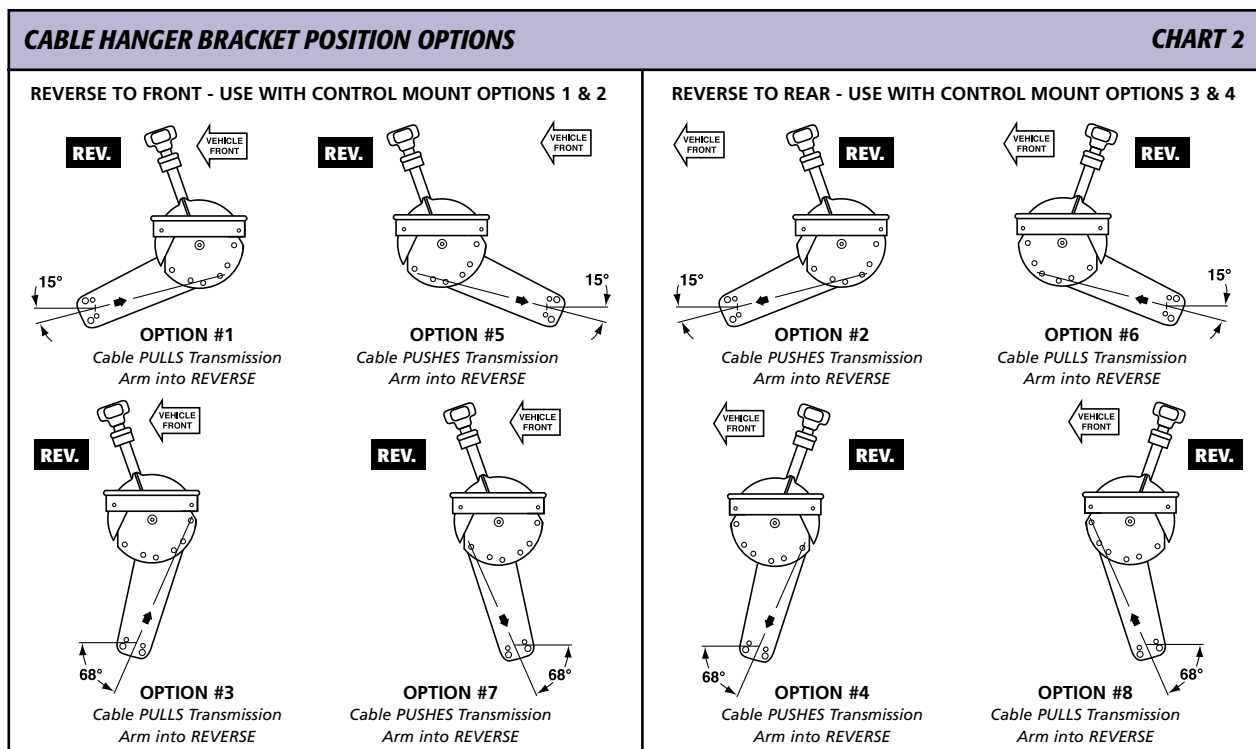
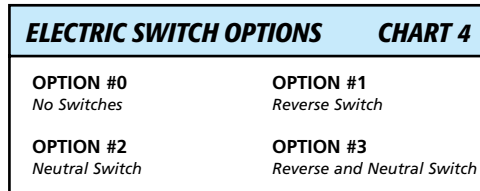
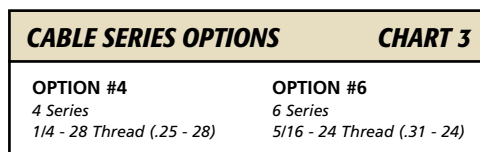
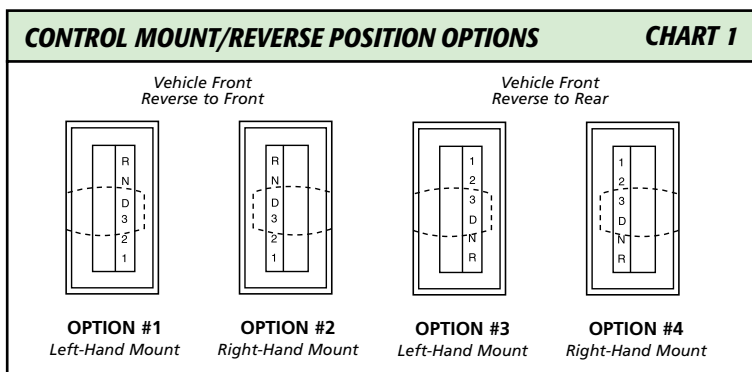
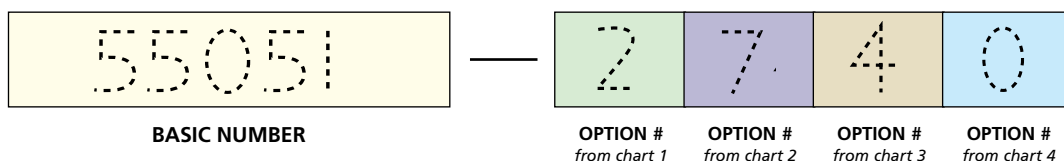
See page 6 for Shift Inhibitor and 2nd Neutral P-B Shifters.

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.)

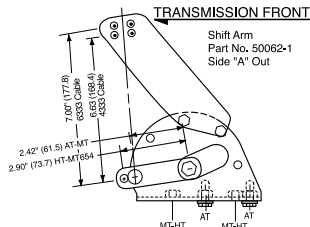
1. Match your automatic transmission model to the basic part number. This is your **BASIC NUMBER**.
2. Refer to Charts 1 through 4 on this page for assembly configuration in order to meet vehicle and system requirements. (Not applicable to Shift Inhibitor and 2nd Neutral P-B Shifter.)
3. Follow the form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

EXAMPLE

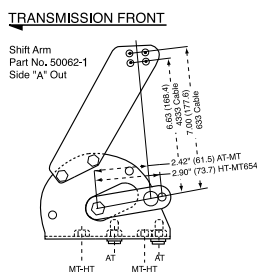


Transmission Connection Kits

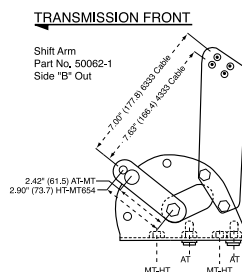
Transmission kits come complete with shift arm, transmission mounting bracket, cable hanger and required hardware. Connection kits are designed to fit any of the five most popular entry positions to the transmission shift arm. Refer to the following drawings to find the cable entry that best fits your 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.)



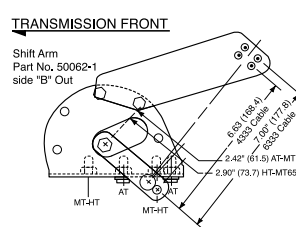
CONFIGURATION #1
Cable **PUSHES** Transmission
Arm into REVERSE.
Use with Shifter Control Positions
numbers 2, 4, 5, 7.
Cable 100-4333-L / 100-6333-L



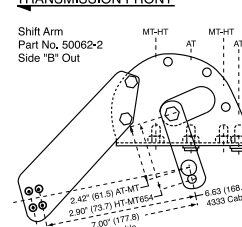
CONFIGURATION #2
Cable **PULLS** Transmission
Arm into REVERSE.
Use with Shifter Control Positions
numbers 1, 3, 6, 8.
Cable 100-4333-L / 100-6333-L



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

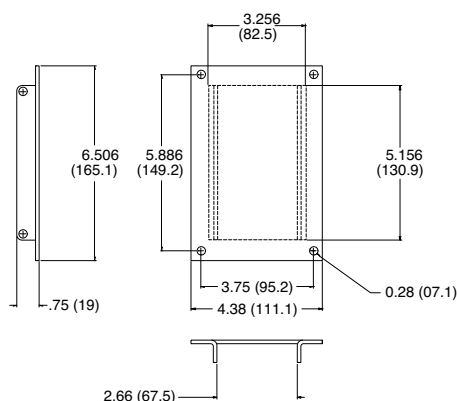


CONFIGURATION #4
Cable **PULLS** Transmission
Arm into REVERSE.
Use with Shifter Control Positions
numbers 1, 3, 6, 8.
Cable 100-4333-L / 100-6333-L



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

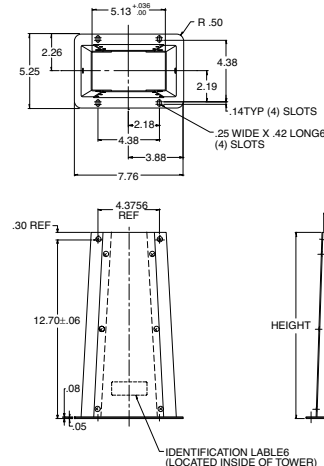
Kits to be assembled in field to fit installation required.

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 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

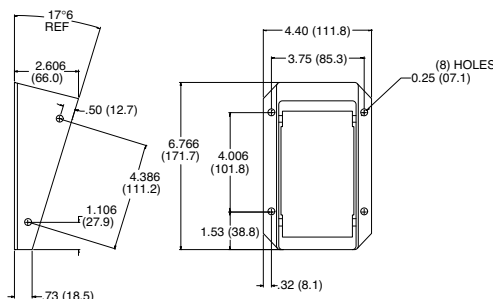
50036-3

FINGER RELEASE KIT

59193-1

T-HANDLE KIT

59228



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!

PUSH-PULL SHIFT CABLES

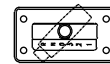
(Used with Controls and Kits)

4 Series: 1/4 - 28 thread, base part
number: 100-4333 length

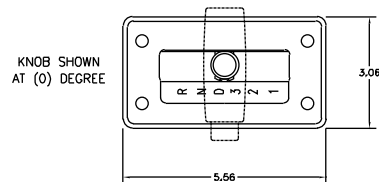
(recommended)
6 Series: 5/16 - 24 thread, base part
number: 100-6333 length

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.



KNOB SHOWN AT (45) DEGREE

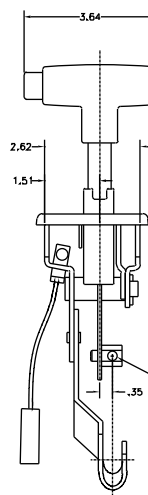
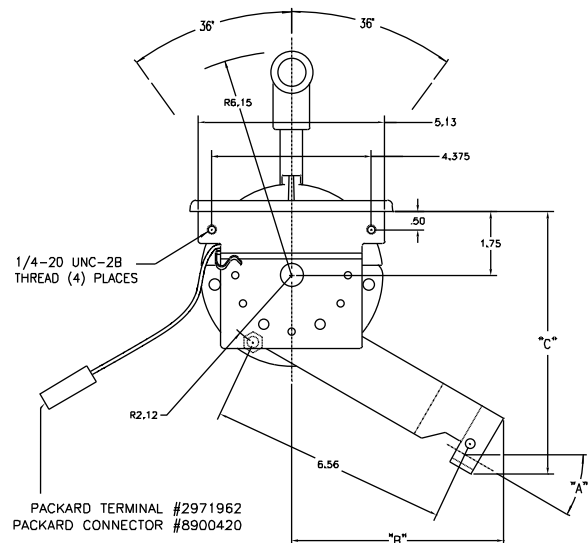


KNOB SHOWN AT (0) DEGREE

- 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.



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 D3 D1".

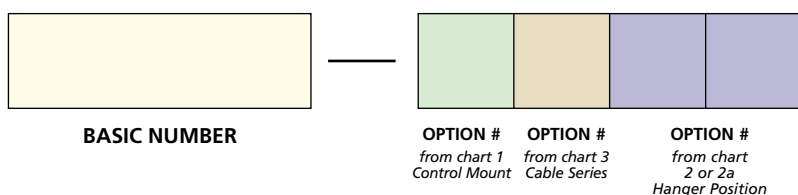
SPECIFICATIONS:

- 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.

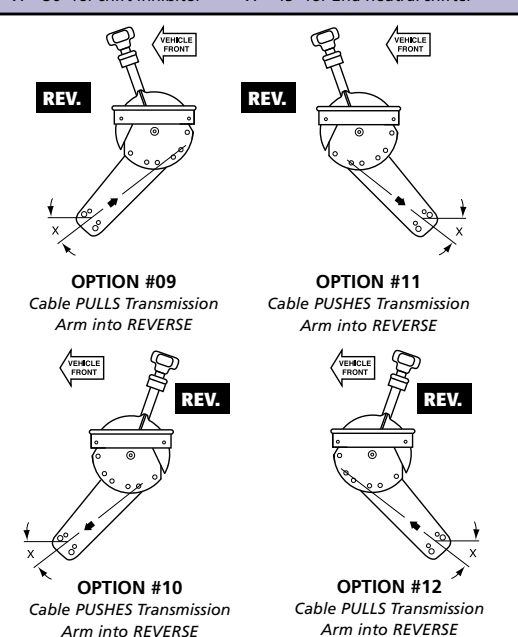
NOTE: These shifters offer 4 positions NOT available with the standard T-handle shifters. They are shown as additional options on this page.



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

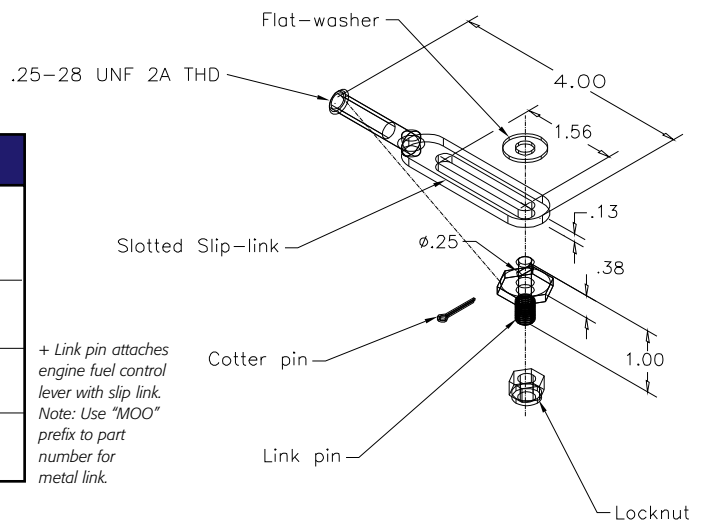
The modulator cable control is designed to send the engine throttle rate (on a mechanically governed engine) to the hydraulic control valve in the transmission. It will fit Allison™ Transmission models AT500, MT600, HT700, V730, CLT650, and CLBT750 series.



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.



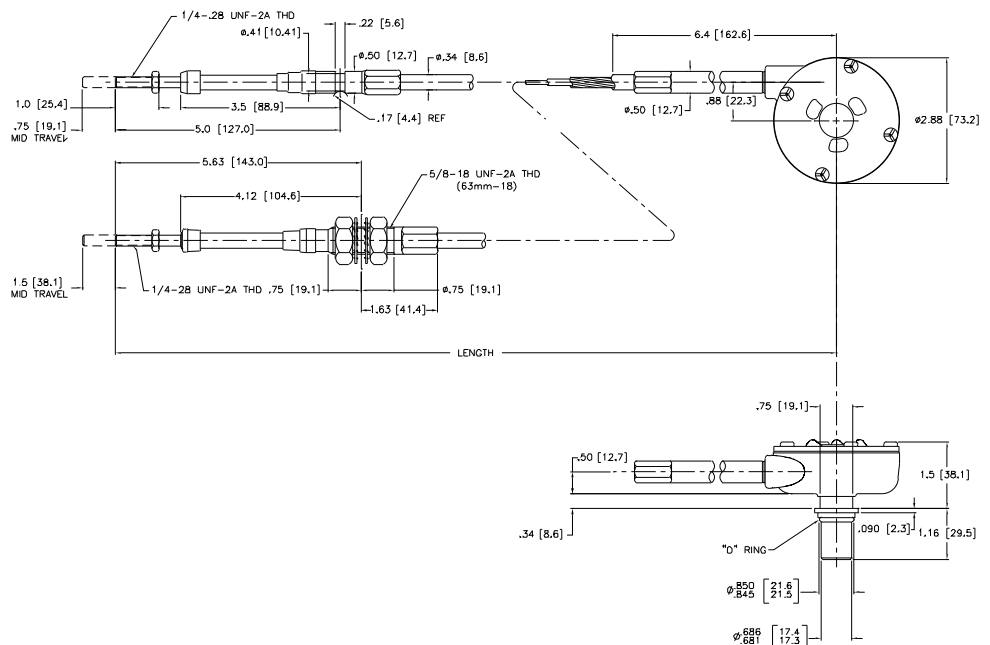
Modulator Slip Link Kit (shown at right)

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
	3-series end	(threaded mount)
2130	Bulkhead	Allison
	3-series end	
2179	Clamp	C-6
	3-series end	
2180	Bulkhead	C-6
	3-series end	
2182	Bulkhead	Hydramatic
	4-series end	(350/400)
2183	Clamp	Hydramatic
	4-series end	(350/400)
2220	Bulkhead	Allison
	4-series end	
2230	Clamp	Allison
	4-series end	

Push Type	Description	Transmission
2225	Bulkhead	Allison
	4-series end	
2235	Clamp	Allison
	4-series end	





check » shift » accelerate » park

Markets

TRUCK



BUS



CONSTRUCTION



AGRICULTURE

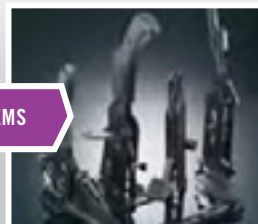


MILITARY



Products

PARK BRAKE SYSTEMS



MECHANICAL
CONTROL CABLES



FLUID LEVEL INDICATORS



ELECTRONIC THROTTLE
CONTROL SYSTEMS



SHIFT CONTROL SYSTEMS



TRASMITEC S.A.S
di Gastaldi Marco & C.
Via A. De Francisco, 127
10036 Settimo Torinese (TO)
Tel. +39 011.8960020
Fax. +39 011.8211692
email: info@trasmitec.it
www.trasmitec.it

