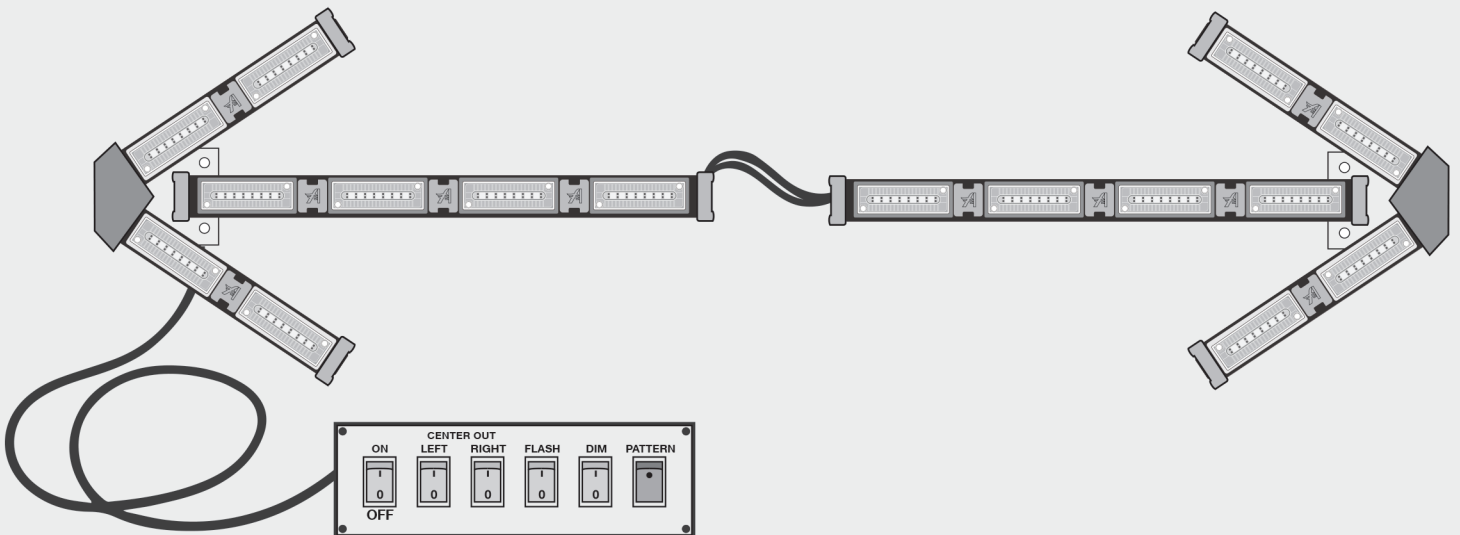




ABRAMS INSTRUCTION MANUAL
WWW.ABRAMSMFG.COM

INSTALLATION AND CONFIGURATION MANUAL FOCUS-1600 ADVISOR ARROW STICK

V.1.3



FOCUS-1600 SERIES ADVISOR ARROW STICK

IMPORTANT! PLEASE READ THROUGH ALL PROVIDED INSTRUCTIONS AND ANY LISTED WARNINGS IN REGARDS TO PRODUCT USE.

MODEL#: FTA-1600

INSTALLATION AND CONFIGURATION MANUAL FOCUS-1600 ADVISOR ARROW STICK

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WARNING:

FAILURE TO INSTALL OR USE THIS PRODUCT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY RESULT IN PROPERTY DAMAGE, SERIOUS INJURY, AND/OR DEATH.

IMPORTANT:

PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS BEFORE INSTALLING YOUR NEW ABRAMS PRODUCT.

- PROPER INSTALLATION OF THIS PRODUCT REQUIRES THE INSTALLER TO HAVE A GOOD UNDERSTANDING OF AUTOMOTIVE ELECTRONICS, SYSTEMS AND PROCEDURES.
- THIS PRODUCT CONTAINS HIGH-INTENSITY LEDS. DO NOT STARE DIRECTLY INTO THESE LIGHTS. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT.
- DO NOT INSTALL THIS PRODUCT OR ROUTE ANY WIRES IN THE DEPLOYMENT AREA OF YOUR AIR BAG. EQUIPMENT MOUNTED OR LOCATED IN THE AIR BAG DEPLOYMENT AREA WILL DAMAGE OR REDUCE THE EFFECTIVENESS OF THE AIR BAG, OR BECOME A PROJECTILE THAT COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH. REFER TO YOUR VEHICLE OWNER MANUAL FOR THE AIR BAG DEPLOYMENT AREA. THE USER/INSTALLER ASSUMES FULL RESPONSIBILITY TO DETERMINE PROPER MOUNTING LOCATION, BASED ON PROVIDING ULTIMATE SAFETY TO ALL PASSENGERS INSIDE THE VEHICLE.
- IF MOUNTING THIS PRODUCT REQUIRES DRILLING HOLES, THE INSTALLER MUST BE SURE THAT NO VEHICLE COMPONENTS OR OTHER VITAL PARTS COULD BE DAMAGED BY THE DRILLING PROCESS. CHECK BOTH SIDES OF THE MOUNTING SURFACE BEFORE DRILLING BEGINS. ALSO DE-BURR ANY HOLES AND REMOVE ANY METAL SHARDS OR REMNANTS. INSTALL GROMMETS INTO ALL WIRE PASSAGE HOLES.
- INSPECT AND OPERATE THIS PRODUCT REGULARLY TO CONFIRM ITS PROPER OPERATION AND MOUNTING CONDITION. DO NOT USE A PRESSURE WASHER TO CLEAN THIS PRODUCT.
- FOR THIS PRODUCT TO OPERATE AT OPTIMUM EFFICIENCY, A GOOD ELECTRICAL CONNECTION TO CHASSIS GROUND MUST BE MADE. THE RECOMMENDED PROCEDURE REQUIRES THE PRODUCT GROUND WIRE TO BE CONNECTED DIRECTLY TO THE NEGATIVE (-) BATTERY POST.
- IT IS RECOMMENDED THAT THESE INSTRUCTIONS BE STORED IN A SAFE PLACE AND REFERRED TO WHEN PERFORMING MAINTENANCE AND/OR REINSTALLATION OF THIS PRODUCT.
- FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!
- IF THIS PRODUCT USES A REMOTE DEVICE TO ACTIVATE OR CONTROL THIS PRODUCT, MAKE SURE THAT THIS CONTROL IS LOCATED IN AN AREA THAT ALLOWS BOTH THE VEHICLE AND THE CONTROL TO BE OPERATED SAFELY IN ANY DRIVING CONDITION.
- DO NOT ATTEMPT TO ACTIVATE OR CONTROL THIS DEVICE IN A HAZARDOUS DRIVING SITUATION.

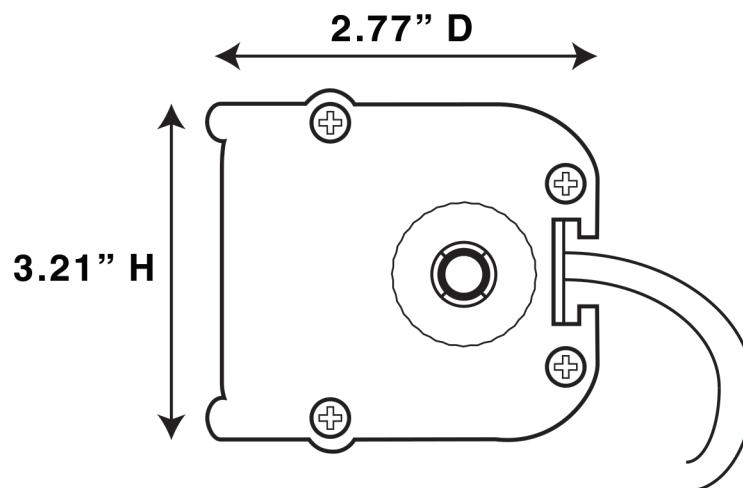
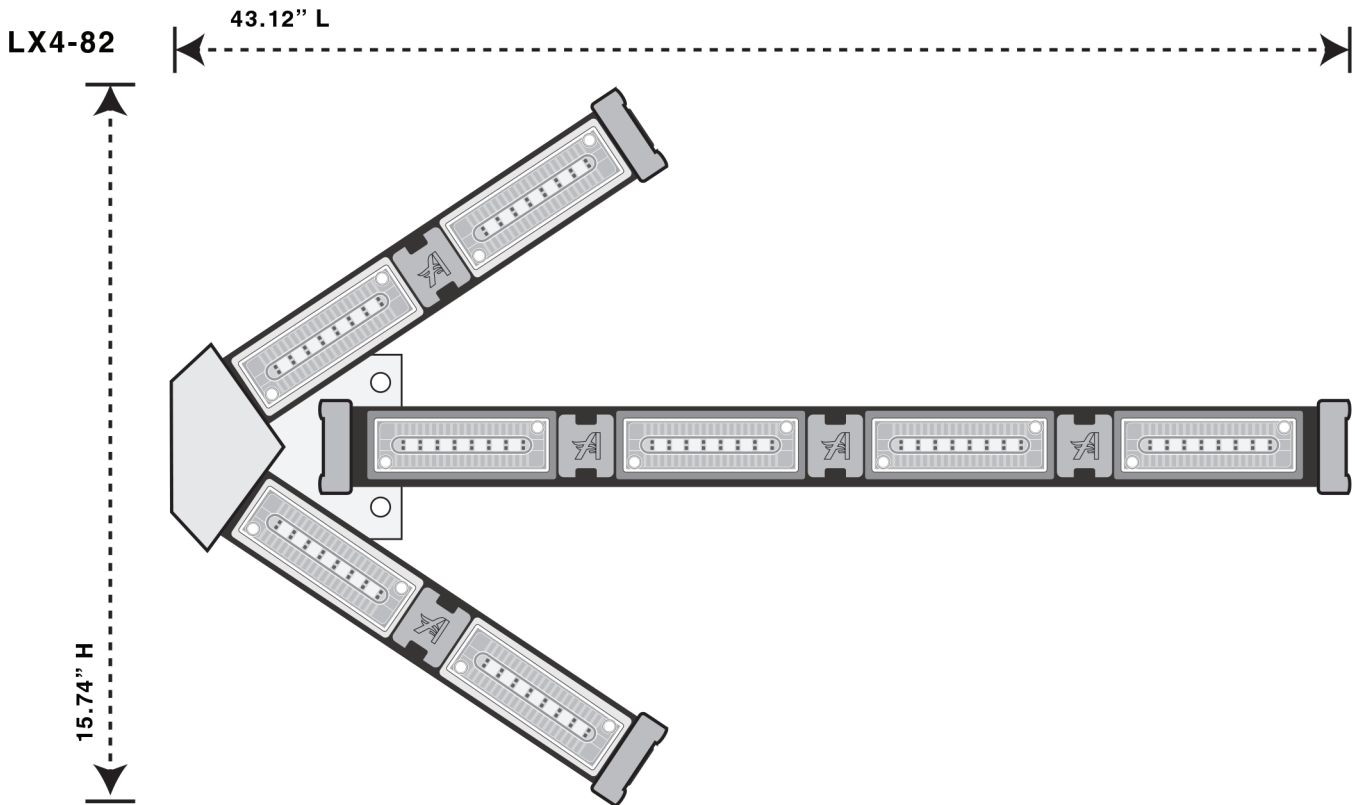
WARRANTY (5 YEAR WARRANTY)

THIS PRODUCT WAS TESTED AND FOUND TO BE OPERATIONAL AT THE TIME OF MANUFACTURE. PROVIDED THIS PRODUCT IS INSTALLED AND OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, ABRAMS GUARANTEES THIS PRODUCT FOR A PERIOD OF 5 YEARS FROM THE DAY OF PURCHASE OR DELIVERY, WHICH EVER IS LATER. UNITS DEMONSTRATED TO BE DEFECTIVE WITHIN THE WARRANTY PERIOD WILL BE REPLACED. IMPROPER INSTALLATION OR USE OF INAPPROPRIATE OR INADEQUATE WIRING OR CIRCUIT PROTECTION CAUSES THE WARRANTY TO BE VOID. FAILURE OR DESTRUCTION OF THE PRODUCT RESULTING FROM ABUSE OR UNUSUAL USE AND/OR ACCIDENTS IS NOT COVERED BY THIS WARRANTY. ABRAMS SHALL IN NO WAY BE LIABLE FOR OTHER DAMAGES INCLUDING CONSEQUENTIAL, INDIRECT OR SPECIAL DAMAGES WHETHER LOSS IS DUE TO NEGLIGENCE OR BREACH OF WARRANTY. ABRAMS MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF FITNESS OR MERCHANTABILITY, WITH RESPECT TO THIS PRODUCT.



INSTALLATION AND CONFIGURATION MANUAL FOCUS-1600 ADVISOR ARROW STICK

EQUIPMENT AND DIMENSIONS



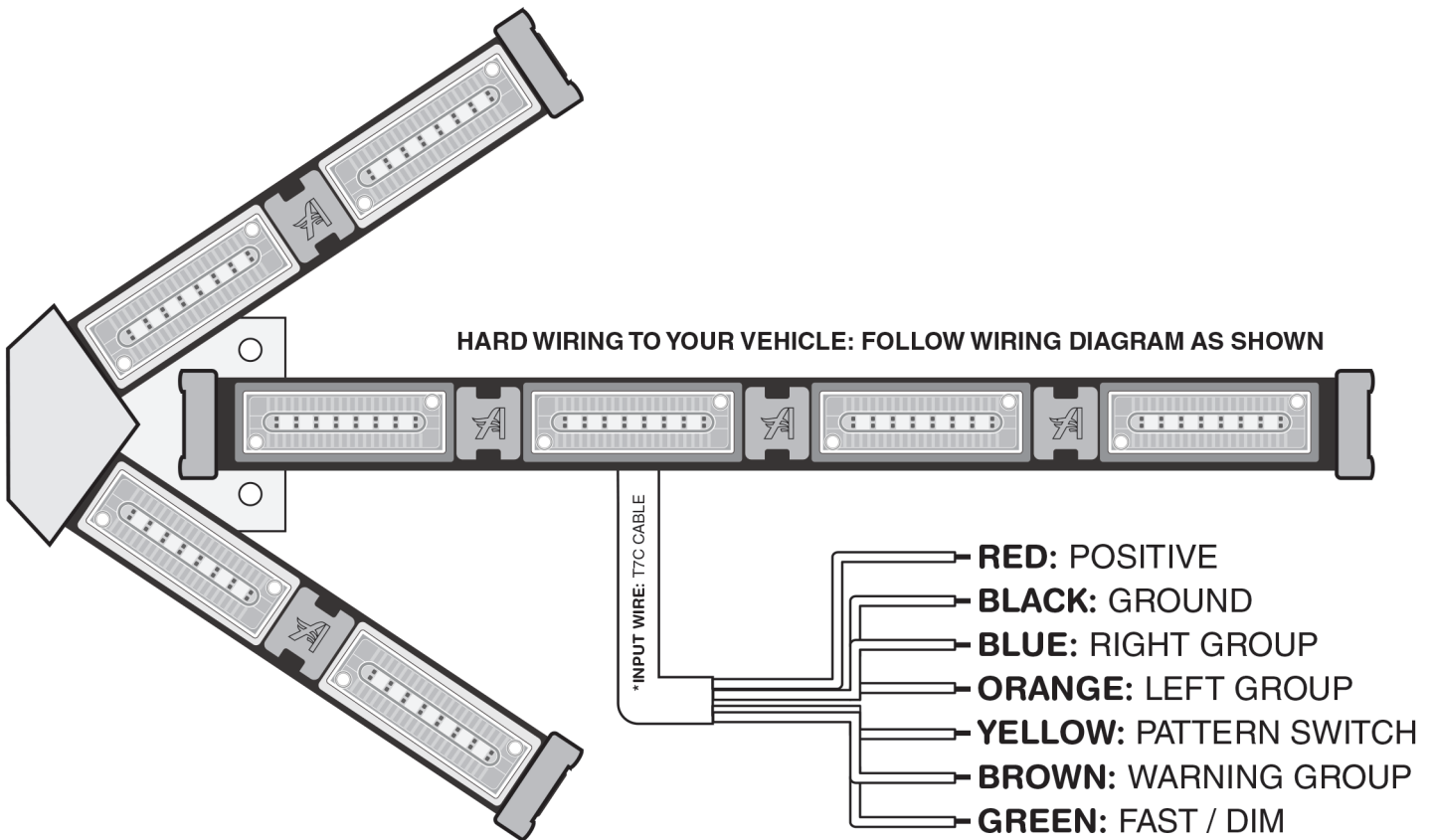
PACKAGE CONTENTS:

- FOCUS-1600 LED ADVISOR ARROW
- 4 X BRACKETS
- 6 SWITCH CONTROLER
- MOUNTING ACCESSORIE KIT
- PRODUCT USER MANUAL

IMPORTANT! PLEASE READ THROUGH ALL PROVIDED INSTRUCTIONS AND ANY LISTED WARNINGS IN REGARDS TO PRODUCT USE.

INSTALLATION AND CONFIGURATION MANUAL FOCUS-1600 ADVISOR ARROW STICK

WIRING AND FUNCTION



Changing Patterns

Patterns can be changed by momentarily connecting the blue wire to the ground of your vehicle's battery.

Less than 1 Second	Next Pattern / On
1-3 Seconds	Previous Pattern

ABRAMS FOCUS 1600 SERIES SPECIFICATIONS:

WORK CURRENT	12V - 1.0A (MAX) - 24V - 0.6A (MAX)
INPUT VOLTAGE	10-30VDC
WATERPROOF	IP67

OPERATION FOR HARDWIRING TO YOUR VEHICLE

RED	POSTIVE
BLACK	GROUND
BLUE	RIGHT GROUP
ORANGE	LEFT GROUP
YELLOW	PATTERN SWITCH
BROWN	WARNING GROUP
GREEN	FAST / DIM

IMPORTANT:

THE INSTALLATION TECHNICIAN AND OPERATOR MUST READ THIS MANUAL BEFORE STARTING INSTALLATION OR OPERATION OF YOUR NEW PRODUCT. THEY MUST HAVE A THOROUGH UNDERSTANDING OF AUTOMOTIVE SYSTEMS, ELECTRONICS AND PROCEDURES.

WARNING:

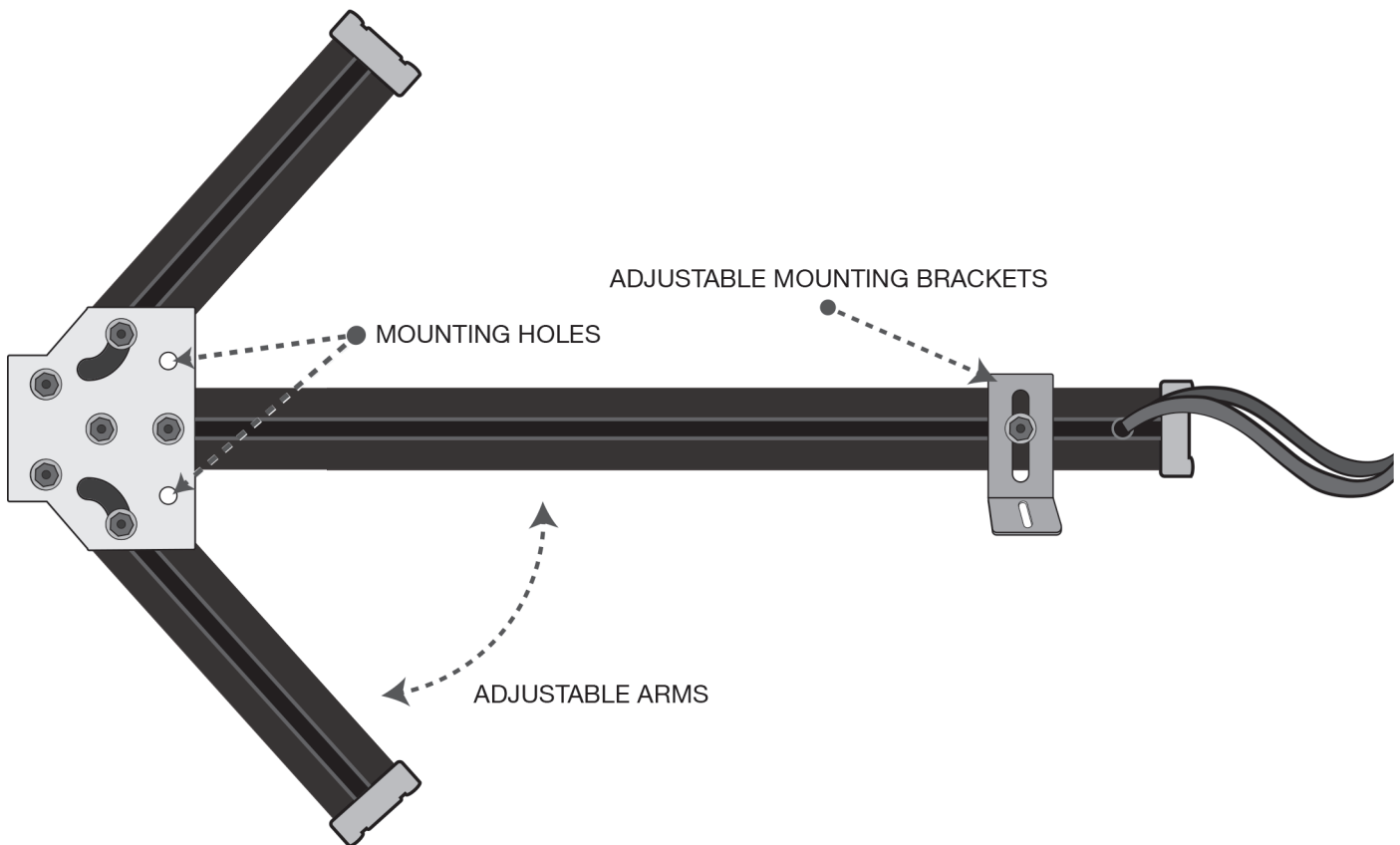
PLEASE UNDERSTAND THAT THE USER AND INSTALLER ASSUME ULTIMATE, COMPLETE AND FULL RESPONSIBILITY IN DETERMINING PROPER MOUNTING LOCATION AND POSITIONING. WHEN INSTALLING, CONSIDER A LOCATION BASED ON ITS ABILITY TO PROVIDE TOTAL SAFETY TO ALL PASSENGERS.

INSTALLATION AND CONFIGURATION MANUAL FOCUS-1600 ADVISOR ARROW STICK

INSTALLING BRACKETS

Surface Mounting

1. Place the unit on the mounting location and position it as desired. Draw a pencil line along the top and bottom of the light and another line between the top and bottom lines.
2. Drill two ¼" holes anywhere along the middle line. It's best to do this as far apart as possible.
3. Unscrew the end cap and slide the two bolts into the rear of the light.
4. Secure by threading a flat washer and elastic stop nut. Tighten firmly.



Mounting Using Included L Brackets (or optional extended L Brackets)

1. Unscrew the two screws from each end cap.
2. Place the L brackets on the end caps and use the screws from Step 1 to secure them.
3. Position the bracket and light onto the mounting location and tighten the brackets firmly.
4. Draw two holes for each bracket and use the included screws to mount them securely.

INSTALLATION AND CONFIGURATION MANUAL FOCUS-1600 ADVISOR ARROW STICK

WARNING GROUP

- P1 DOUBLE 75FPM HALF DOUBLE 75FPM CHECKER 75FPM
- P2 HALF DOUBLE 75 FPM CHECKER 75FPM
- P3 4 DUAL DOUBLE 75FPM HALF DOUBLE 75FPMCHECKER 75FPM
- P4 4 DOUBLE 75FPM HALF DOUBLE 75FPM CHECKER 75FPM
- P5 4 DUAL DOUBLE 150FPM HALF DOUBLE 150FPMCHECKER 150FPM
- P6 DOUBLE 150FPM HALF DOUBLE 150FPM CHECKER 150FPM
- P7 4 DUAL 75FPM HALF DOUBLE 75FPM CHECKER 75 FPM
- P8 DOUBLE 35FPM HALF DOUBLE 35FPM CHECKER 35FPM
- P9 SINGLE FLASH 75FPM P10-SINGLE 150 FPM
- P11 DOUBLE FLASH 75FPM P12-DOUBLE FLASH 120FPM
- P13 QUAD FLASH75FPM P14-QUAD FLASH 150FPM
- P15 SINGLE FLASH SPLIT 75FPM P16-SINGLE FLASH SPLIT 150FPM
- P17 DOUBLE FLASH SPLIT 25FPM
- P18 DOUBLE FLASH SPLIT 150FPM
- P19 QUAD FLASH SPLIT 75FPM P20- QUAD FLASH SPLIT 150FPM
- P21 SINGLE 600FPM CHECKER
- P22 QUAD 150FPM CHECKER
- P23 4 SINGLE 150FPM 4 SINGLE 300FPM HALF
- P24 3 SINGLE 150FPM 3 DOUBLE 150FPM 3 SINGLE 300FPM HALF
- P25 IN OUT 150FPM P26- IN OUT 75FPM
- P27 STEADY QUAD 150FPM CHECKER
- P28 STEADY QUAD 75FPM CHECKER
- P29 MODUL. CHECKER
- P30 SINGLE 75/150/300FPM CHECKER & ALL ON
- P31 AUTO

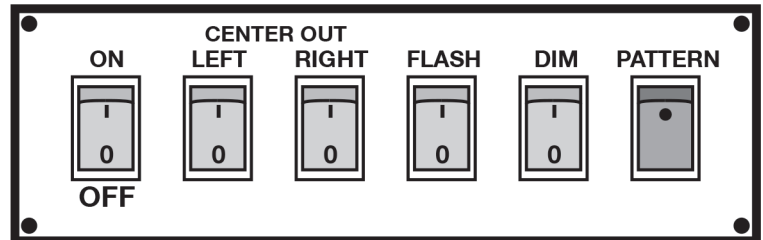
LEFT /RIGHT /CENTER GROUP

- P1 ONE LAMP SEQUENCE TO DOUBLE
- P2 TWO LAMP SEQUENCE TO DOUBLE
- P3 SIX LAMP SEQUENCE TO DOUBLE
- P4 SEQUENCE TO SOLID
- P5 ONE LAMP SEQUENCE TO TRIPLE
- P6 TRIPLE LAMP SEQUENCE TO DOUBLE
- P7 SEQUENCE ON TO SEQUENCE OFF
- P8 SOLID ARROW

FLASH PATTERN OPERATION

SWITCH STATE					
ON/OFF	CENTER		WARNING	FAST	OPERATION
	LEFT	RIGHT			
I	I	0	0	0	LEFT
I	0	I	0	0	RIGHT
I	I	I	0	0	CENTER
I	0	0	I	0	FLASH
I	0	0	0	I	FAST/DIM

SWITCH PANEL



ADJUSTMENT

After the Traffic Series led light is securely installed, loosen the adjusting screws located on each end and tilt the light to the desired angle. Then tighten the screws. Turn the Traffic Series led light on and check the light from the front or rear of the vehicle, through the window, to ensure that it is at the most desirable angle, and that the light is not impeded by any obstacles and/or window tinting.

TROUBLESHOOTING

The Traffic Series have been factory tested and approved. If the light fails to work, check the following:
 Remove the fuse from the vehicle fuse box and check to see if it has blown.

**IF YOU REQUIRE ADDITIONAL INFORMATION AND/OR VIDEO AND USER GUIDES, PLEASE VISIT WWW.ABRAMSMFG.COM/SUPPORT OR CALL ABRAMS CUSTOMER SUPPORT 844.9.ABRAMS

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