

WHELEN[®]

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Installation Guide:
2500 Series Strobe Beacon
Models: 2515, 2519 & 2526

Warnings to Installers

Whelen's emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen's written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that he can operate the system without taking his eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer's instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. **PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.**

Warnings to Users

Whelen's emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen's audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.**
- **Failure to use specified installation parts and/or hardware will void the product warranty.**
- **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 the holes and remove any metal shards or remnants. Install grommets into all wire passage holes.**
- **If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro®, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.**
- **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's 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.**
- **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 (this does not include products that use cigar power cords).**
- **If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.**
- **Do not attempt to activate or control this device in a hazardous driving situation.**
- **This product contains either strobe light(s), halogen light(s), high-intensity LEDs or a combination of these lights. Do not stare directly into these lights. Momentary blindness and/or eye damage could result.**
- **Use only soap and water to clean the outer lens. Use of other chemicals could result in premature lens cracking (crazing) and discoloration. Lenses in this condition have significantly reduced effectiveness and should be replaced immediately. Inspect and operate this product regularly to confirm its proper operation and mounting condition. Do not use a pressure washer to clean this product.**
- **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!**

The **2500 Series Beacon** has fully encapsulated electronics that are impervious to damage from moisture and vibration. The LED diagnostic indicator displays the operational state of the electronic power supply and flash tube. The unit features an automatic photocell Hi/Low feature which can be overridden to maintain high intensity during nighttime operation. This beacon also features Scan-Lock™ which allows you to choose between 7 available flash patterns. There are 6 mounting options (Not all included with beacon): mirror mount, permanent mount, pipe mount, J-hook mount, magnetic mount, high base mount and Vacuum mount. (Magnetic and Vacuum mount do not include Scan-Lock™ or Hi/Low.) This beacon also features an easy to replace snap-in flash tube. All models are SAE certified.

Specifications:

Model 2515 Series: SAE class 2 (all colors) 12-48 VDC

Input Power:.....21.5 watts
Output Power:..... 15 watts / 13 joules

1.7 amps / 12 VDC

NOTE: Power readings on all models were taken with the beacon operating in CometFlash®.

0.9 amps / 24 VDC

0.5 amps / 36 VDC

0.3 amps / 48 VDC

Model 2519 Series: SAE class 2 (all colors) 12-24 VDC

Input Power:.....27 watts

Output Power:..... 19 watts / 16 joules

Input Current:.....2.1 amps / 12 VDC

1.1 amps / 24 VDC

Model 2526 Series: SAE class 1 (all colors) 12-24 VDC

Input Power:.....37 watts

Output Power:..... 26 watts / 22 joules

Input Current:.....2.9 amps / 12 VDC

1.5 amps / 24 VDC

IMPORTANT! All beacons in this manual should be fused at 5 AMPS.

IMPORTANT! Always be sure the drain hole (located on the bottom of the base) is facing the rear of the vehicle after mounting.

WARNING: All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and FUSED at the battery to carry the load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!

WARNING: The strobe light power supply is a high voltage device. Do not touch or remove the strobe tube or assembly. Wait 10 minutes after disconnecting the unit from power before starting any work or trouble shooting on the power supply or system.

Wiring:

Listed below are the wire designations for the 2500 beacon. To extend the beacons wires, use the wire gauge indicated below.

<u>WIRE COLOR</u>	<u>WIRE GAUGE</u>	<u>FUNCTION</u>
RED	18 AWG	Positive
BLACK	18 AWG	Ground
VIOLET	18 or 22 AWG	High Power Override
WHITE-VIOLET	18 or 22 AWG	Scan-Lock

Mounting:

1 INCH (NPT) PIPE MOUNT:

Threading for a 1 inch (NPT) pipe mounting is precast in the base.

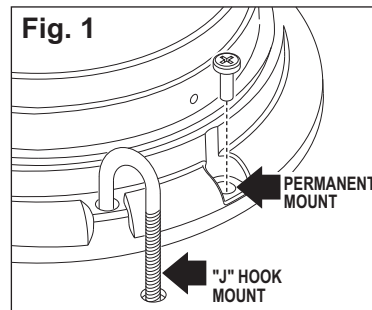
1. Feed power cable through the 1 inch pipe and connect the cable to the wires of the beacon.
2. Screw the beacon into the threads on the 1" pipe, taking precaution not to damage the connected power wires. Do not tighten base too hard as not to damage threads on base.

PERMANENT MOUNT:

1. Use the base as a template and mark the three mounting holes off onto the mounting surface. Remove base. In the center between the three mounting holes, mark the location of the wire access hole.
2. Drill the mounting holes with a #16 drill bit. Drill the wire access hole using a 3/8" drill bit. Remove any burrs from the wire access hole and it is also recommended that you install a rubber grommet (*customer supplied*) into the wire hole to protect the wires.
3. The base seal (*ITEM 21*) will be used between the strobe beacon base and the mounting surface.
4. Feed the wires first through the base seal and then through the cable access hole and place the base (*with seal*) on the mounting surface (*while lining up the mounting holes in the base with the mounting holes you drilled into the mounting surface*). Secure the beacon firmly to the mounting surface with the supplied mounting screws.

"J" HOOK MOUNT:

This beacon is equipped to handle the "J" hook mount available on some beacons. Be sure to use the correct "J" hook mounting holes (Fig. 1).



TEMPORARY MOUNT:

IMPORTANT WARNING: The use of any magnetically mounted warning device on the outside of a vehicle in motion is not recommended and is at the sole risk and responsibility of the user.

Magnetic/suction: Thoroughly clean the proposed mounting surface prior to mounting. For suction cup mounting, wipe the suction cup clean, place the beacon onto its mounting surface and apply gentle pressure to ensure a good seal has been achieved. The Magnetic/Suction Cups mount the same way as standard suction cups but are best suited to a flat, steel surface. **Magnetic:** Place the beacon onto the mounting surface and plug it into the vehicle cigar lighter. The magnetic mount models do not offer Scan-Lock, Cruise Light, Low Power or SYNC.

HIGH BASE MOUNT:

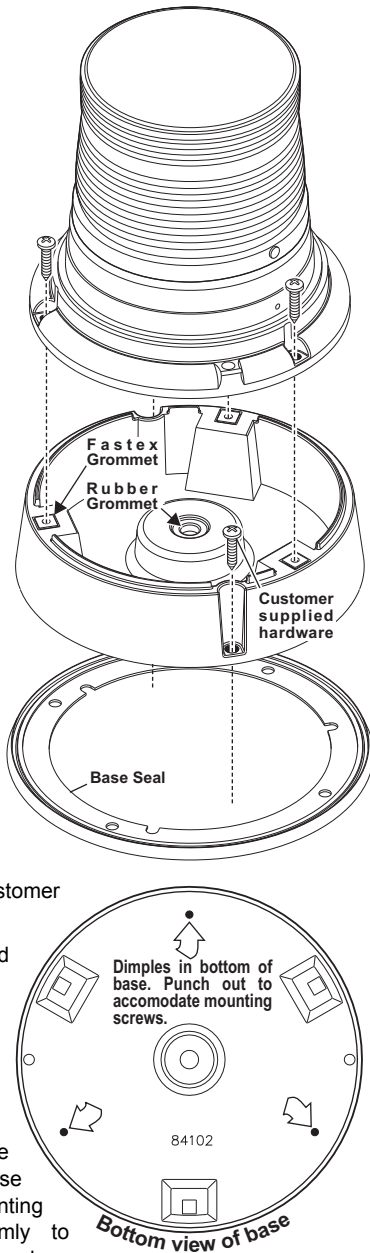
NOTE: The high base will also accept a 1 inch NPT pipe mount.

1. Install the supplied rubber wire grommet into the high base and feed the beacon wires through the grommet.
2. Install the three fastex grommets into the high base as shown then, using the 3 sheet metal screws from the existing base, secure the existing base to the high base.
3. Using the base as a template mark off the two mounting hole locations onto the mounting surface. Remove the base and in the center mark the location of the wire access hole.
4. Drill mounting holes into the mounting surface with a drill sized for #10-24 mounting screws (*customer supplied*). Drill the wire access hole using a 3/8" drill bit. Remove any burrs from the wire access hole and it is also recommended that you install a rubber grommet (*customer supplied*) to protect the wires.
5. The base seal will be used between the strobe beacon base and the mounting surface.
6. Feed the wires first through the base seal and then through the wire access hole and place the base (*with seal*) on the mounting surface (*while lining up the mounting holes in the base with the mounting holes you drilled into the mounting surface*). Secure the beacon firmly to the mounting surface with your mounting screws.

HIGH BASE / PERMANENT MOUNT

This is a tamper-proof way to secure the beacon. Mounting screws are hidden inside the base, and aren't accessible unless unit is dismantled.

1. Locate the 3 dimples on the bottom of the base. Drill them out with a .218 dia. drill bit for #10 sheet metal screws (customer supplied).
2. Using the base as a template mark the 3 mounting holes off onto the mounting surface. Remove the base and in the center mark the location of the wire access hole.
3. Drill the mounting holes into the mounting surface to fit your mounting hardware then drill the wire access hole using a 3/8 inch drill bit. Remove burrs from the wire access hole to prevent damage to the wires. It is recommended that you install a rubber grommet in the wire access hole (customer supplied).
4. The gasket will be used between the base and the mounting surface.
5. Feed the wires through the cable access hole and place the base with the gasket on the mounting surface, lining up the mounting holes in the base with the ones in the mounting surface. Secure base firmly to mounting surface with your hardware and reassemble beacon.



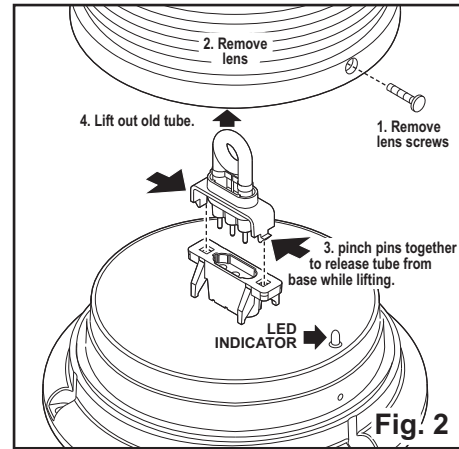
ActionFlash™ Comet-Single
 ScanFlash™ Comet-Single-Triple-Single-Double-Single-Repeat

High Power Override: Violet

This beacon is equipped with photocell Hi/Low. This means the beacon will automatically step down to low power at night. If you wish to keep the beacon in high power at night, ground the VIOLET wire. This will cause the beacon to stay in high power until you remove the ground. In applications requiring SAE compliance, this line should be permanently grounded.

LED Diagnostic Indicator:

This strobe beacon comes equipped with an LED diagnostic indicator. If



the flash tube does not light and the LED is blinking, replace the flash tube. If the flash tube does not light and the LED is not blinking, check the power wires, fuse or strobe power supply. The LED is located under the lens (Fig. 2).

Replacing the Flashtube:

1. Remove the lens screws and remove the lens.
2. While pinching the 2 clips on the sides of the flashtube together, pull the old flash tube out of the beacon.
3. Plug the new flash tube into the base and replace the lens.

IMPORTANT! It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment! Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.

Operation:

Programming / Scan-Lock™ / White-Violet:

To cycle through all patterns: With the beacon switched on, apply Positive (+) voltage to the WHITE-VIOLET wire for less than 1 second and release to cycle forward. Apply Positive (+) voltage for more than 1 second and release to cycle backward.

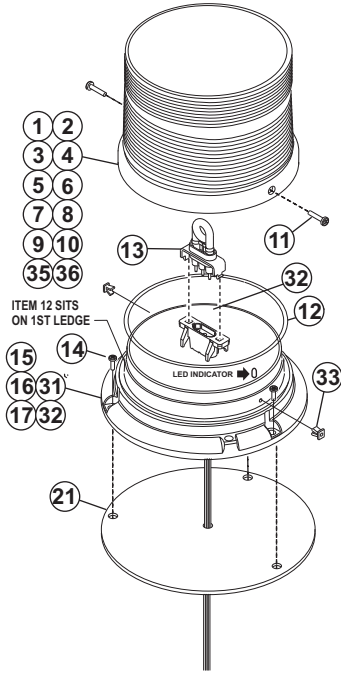
To set a pattern as default: When the desired pattern is displayed, allow it to run for more than 5 seconds. The beacon will now display this pattern when activated.

To reset to the factory default pattern: Turn off power. Now, while applying Positive (+) voltage to the WHITE-VIOLET wire, turn power on.

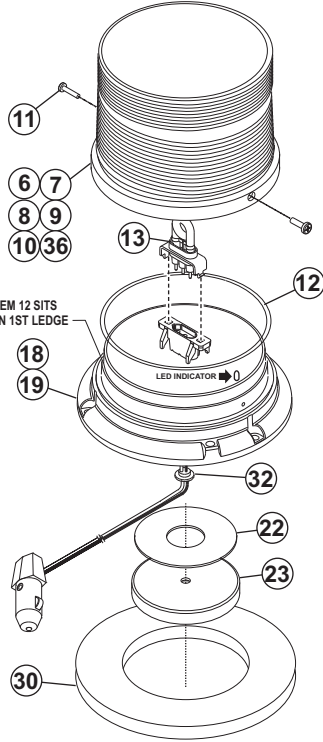
Available Scan-Lock™ Patterns:

Comet Flash® (Default Pattern)70 FPM
TripleFlash™80 FPM
DoubleFlash90 FPM
SingleFlash	120 FPM
ModuFlash™	60-120-60 FPM

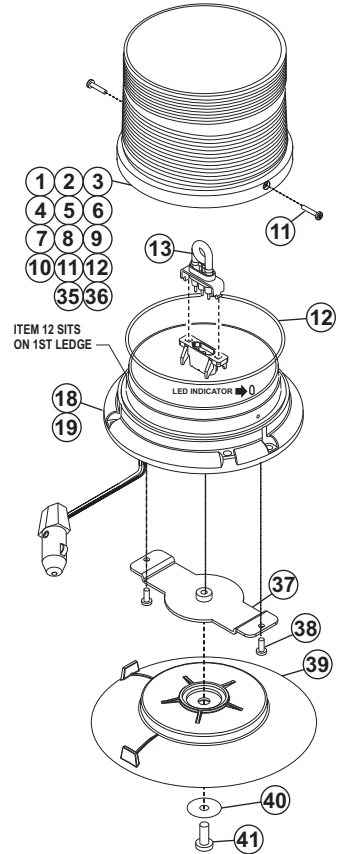
COMBO MOUNT ASSEMBLY



MAG MOUNT ASSEMBLY



VACUUM MOUNT ASSEMBLY



COLOR & DOME POWER HOUSING & MOUNT

0 1 - 0 6 8 3 9 9 7

COLOR / HI or LO DOME:

A = AMBER / HI 1 = AMBER / LO
 B = BLUE / HI 2 = BLUE / LO
 C = CLEAR / HI 3 = CLEAR / LO
 G = GREEN / HI 4 = GREEN / LO
 R = RED / HI 5 = RED / LO
 V = VIOLET / HI 6 = VIOLET / LO

POWER:

5 = 15 WATT 9 = 19 WATT
 6 = 26 WATT

HOUSING and MOUNT

1 = PLASTIC / COMBO MOUNT
 2 = CAST / COMBO MOUNT
 3 = PLASTIC / MAG MOUNT
 4 = PLASTIC/VACUUM

QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	ITEM	PART NUMBER	DESCRIPTION
									*		01-0683997_51	STROBE BEACON ASSY 15W PLASTIC
									*		01-0683997_91	STROBE BEACON ASSY 19W PLASTIC
									*		01-0683997_62	STROBE BEACON ASSY 26W CAST
									*		01-0683997_53	STROBE BEACON ASSY 15W MAG
									*		01-0683997_93	STROBE BEACON ASSY 19W MAG
									*		01-0683997_52	STROBE BEACON ASSY 15W CAST
									*		01-0683997_92	STROBE BEACON ASSY 19W CAST
	*										01-0683997_54	STROBE BEACON ASSY 15W VACUUM
*											01-0683997_94	STROBE BEACON ASSY 19W VACUUM
A/R	A/R	A/R	A/R	-	-	AR	AR	AR	AR	1	68-2180483-10	DOME / AMBER 1079
A/R	A/R	A/R	A/R	-	-	AR	AR	AR	AR	2	68-2180483-20	DOME / BLUE 1079
A/R	A/R	A/R	A/R	-	-	AR	AR	AR	AR	3	68-2180483-30	DOME / CLEAR 1079
A/R	A/R	A/R	A/R	-	-	A/R	A/R	A/R	A/R	4	68-2180483-40	DOME / GREEN 1079
A/R	A/R	A/R	A/R	-	-	A/R	A/R	A/R	A/R	5	68-2180483-50	DOME / RED 1079
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	6	68-2180452-10	DOME / AMBER DMS
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	7	68-2180452-20	DOME / BLUE DMS
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	8	68-2180452-30	DOME / CLEAR DMS
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	9	68-2180452-40	DOME / GREEN DMS
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	10	68-2180452-50	DOME / RED DMS
2	2	2	2	2	2	2	2	2	2	11	15-065419-080	SCREW / 6 X 1/2 PPH PLASTI SS
1	1	1	1	1	1	1	1	1	1	12	38-0443007-00	O RING / 4.724 ID X .079 THK 70 DUROMETER BLK
1	1	1	1	1	1	1	1	1	1	13	36-0343008-00	FLASHTUBE STROBE BEACON 2500 SERIES
-	-	3	3	-	-	3	3	3	3	14	15-101416-100	SCREW / 10 X 5/8 PPHSMS 410 SS
-	-	-	-	-	-	-	-	-	1	15	01-0263736-51	ASS'Y / BASE 15 with PLASTIC-COMBO
-	-	-	-	-	-	-	-	-	1	16	01-0263736-91	ASS'Y / BASE 19 with PLASTIC-COMBO
-	-	-	-	-	-	-	-	-	1	17	01-0263736-62	ASS'Y / BASE 26 with CAST-COMBO
-	1	-	-	-	-	-	-	-	-	18	01-0263736-53	ASS'Y / BASE 15 with PLASTIC-MAG
1	-	-	-	1	-	-	-	-	-	19	01-0263736-93	ASS'Y / BASE 19 with PLASTIC-MAG
1	1	1	1	1	1	1	1	1	1	20	10-0546440-*	LABEL M/N 2515/2519/2526 SERIES (not shown)
-	-	1	1	-	-	1	1	1	1	21	38-0241596-00	SEAL / BASE MODEL 2000 SERIES B
-	-	-	-	1	1	-	-	-	-	22	66-0423038-00	TAPE / DISC 3.00 OD X 1.13 ID .062 THK
-	-	-	-	1	1	-	-	-	-	23	65-0010192-00	MAGNET / X-80
1	1	-	-	1	1	-	-	-	-	25	10-0322783-02	LABEL / AIRBAG & MAG MT WARNING (not shown)
1	1	1	1	1	1	1	1	1	1	28	10-0321846-00	LABEL / WARNING (not shown)
1	1	1	1	1	1	1	1	1	1	29	10-0546455_	LABEL / M/N P/N S/N (not shown)
-	-	-	-	1	1	-	-	-	-	30	38-0143340-00	PAD / MOUNTING MODEL 2000 SERIES MAG-MT
-	-	-	1	-	-	-	-	-	-	31	01-0263736-52	ASS'Y / BASE 15 with CAST-COMBO
-	-	1	-	-	-	-	-	-	-	32	01-0263736-92	ASS'Y / BASE 19 with CAST-COMBO
-	-	2	2	-	-	2	2	-	-	33	13-062C40-16J	SCREW GROMMET / #6/#8 FASTEX
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	34	10-0323189-00	LABEL / NASCAR® BAR LOGO (not shown)
A/R	A/R	A/R	A/R	-	-	A/R	A/R	A/R	A/R	35	68-2180483-V0	DOME / VIOLET 1079
A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	36	68-2180452-V0	DOME / DARK VIOLET DMS
1	1	-	-	-	-	-	-	-	-	37	07-764648-023	PLATE / ADAPTER MAG-SUCTION CUP
2	2	-	-	-	-	-	-	-	-	38	15-081416-080	SCREW / 8 X 1/2 PPHSMS
1	1	-	-	-	-	-	-	-	-	39	08-1583927-05	SUCTION CUP / MAGNET MOUNT
1	1	-	-	-	-	-	-	-	-	40	16-1302820-06	WASHER / FLAT 1/4" 7/8 OD SS
1	1	-	-	-	-	-	-	-	-	41	14-130216-120	SCREW / 1/4-20 X 3/4 PPHMS SS