TSection # 7 - Chassis - Frame and Underbody Review

Section Summary

1. Primer and Sealer Process

All cars went through a series of coatings when it was manufactured. The process is outlined below:

Step # 1: A light gray coating that was applied by bell shaped fixtures that rotated at approximately 2500 RPMs and dispersed a fog coating over and under the entire vehicle.

Stem # 2: There was a 20 – 22" corrosive primer dip that was to permeate the nooks and crannies from approximately the middle area of the car down.

Step # 3: A Red Oxide primer was then applied to coat the bare metal panels of the body.

Step # 4: A second coat of light gray primer was then sprayed over the red oxide.

Step # 5: The final paint was then applied over the sub primer/protective layers for the final finish. Some cars would then receive pinch well blackout that would also be evident in the color scheme.

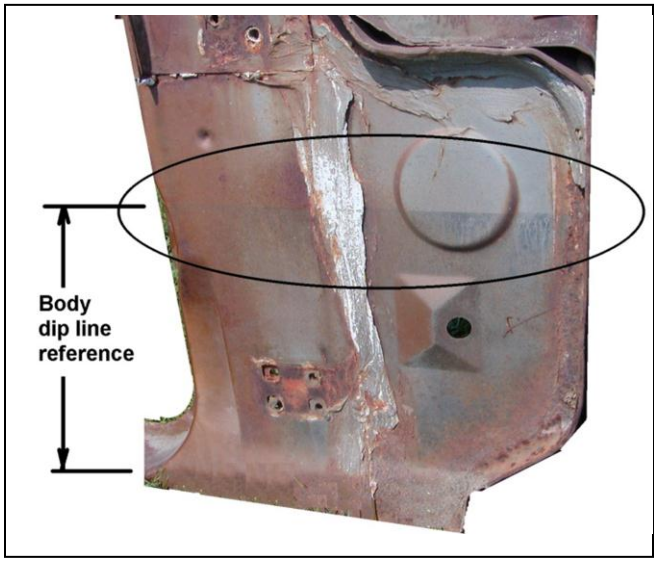
☐ Three to five separate colors could be observed in the paint layers, underneath a vehicle that was manufactured at the Hamtramck or St. Louis Chrysler facility.

☐ ☑ **Note:** Hamtramck built cars had a gray primer dip that varies from a very dark gray to a medium dark gray. Some vehicles built at the Los Angeles plant had black primer dip applied to the floor pans and wheel wells and the others had gray primer dip like Hamtramck built cars. The earliest documented E body LA built car with gray primer was built on Feb 18, 1970.

☑ **Note:** Floor pans are totally undercoated or finished in gray/ greenish (Bonderising/sealer) and over sprayed with body color.

The front (firewall) and rear beam received the most over spray. The sides received the least amount of overspray. However, the amount of over spray is not constant from vehicle to vehicle.

Pts≠:► **Judges Guidance:** If the entire floor pan and frame is painted body color then a deduction must be taken if the vehicle is being judged to how it was delivered from the factory.

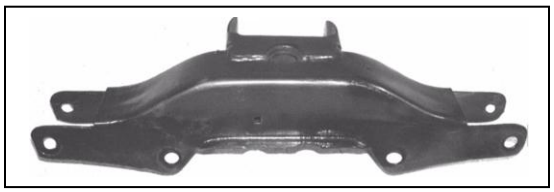


Reference photo:
Right side cowl/firewall to "A" pillar

1970 Left front floor pan

1971 right side floor pan

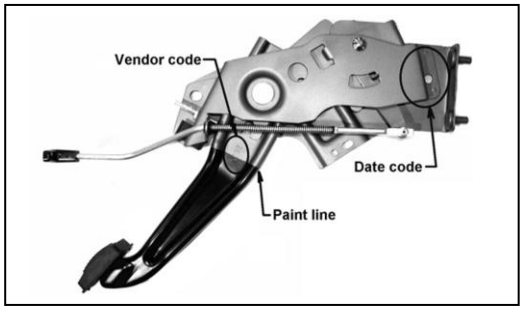
Left side rear pan with and without torque box



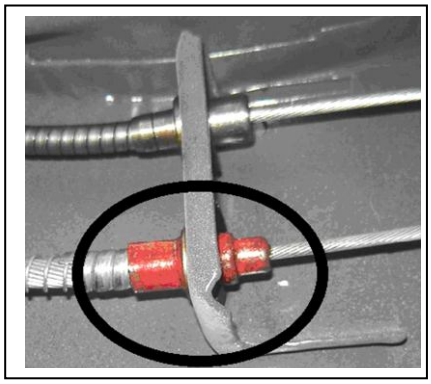
Note: The transmission cross member is in the Transmission section of this manual.

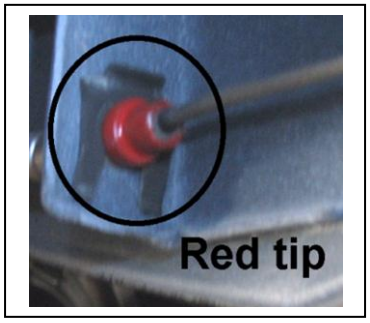
Parking Brake Cables and Related Components
1970 Reference
Inspect the parking brake cable for operation**.** The cables should all be natural steel with our plating. Check the condition of the rubber grommet on the LH inner fender.

1970 Emergency brake adjuster. The bracket should be zinc plated and the adjusting nut should be plated red zinc dichromate.

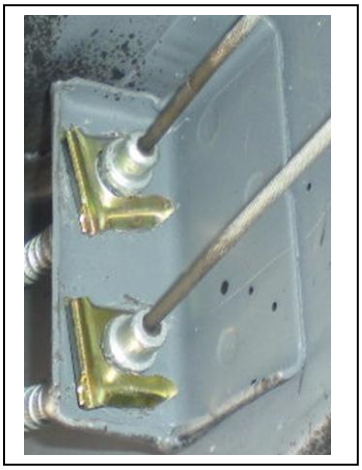


Note: The Parking brake mechanism is to be reviewed in the intersection of the manual





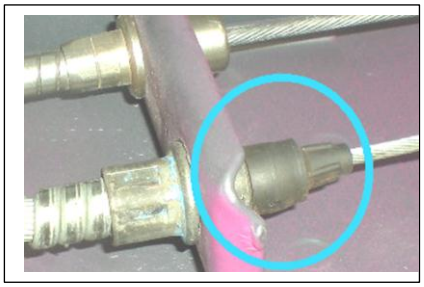
☑ **Note:** The end connector for the LH wheel has been found to be painted with various color ends. Either blue, green, orange or red. We have not been able to identify the exact colors by application at this point. We have seen both Blue, red and Green on Dana axle cars and blue and red on 8 ¾" axle cars. This is an assembly aide for proper position during installation

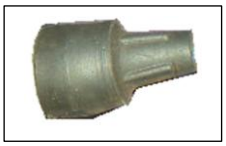


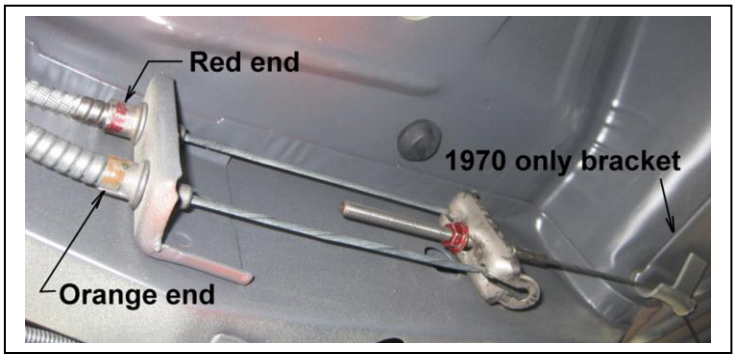
The retaining clips should be phosphate plated .

1970 Parking Brake Cables and Related Components Cont…

B body E brake equalized reference

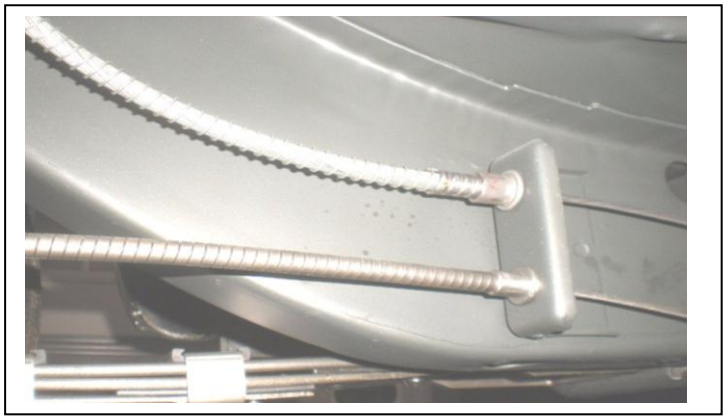






Parking brake cable support bracket is spot welded to the left hand rear frame rail n 1970

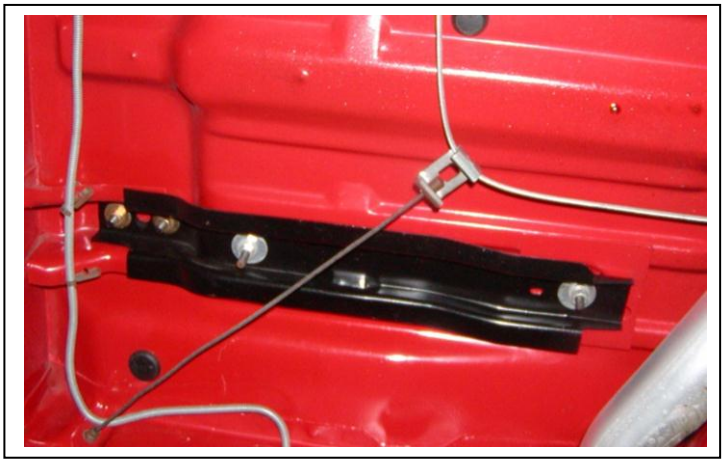
🗒 ☑ **Note:** We have only seen a few original examples with a black rubber protective boot on the lower cable.



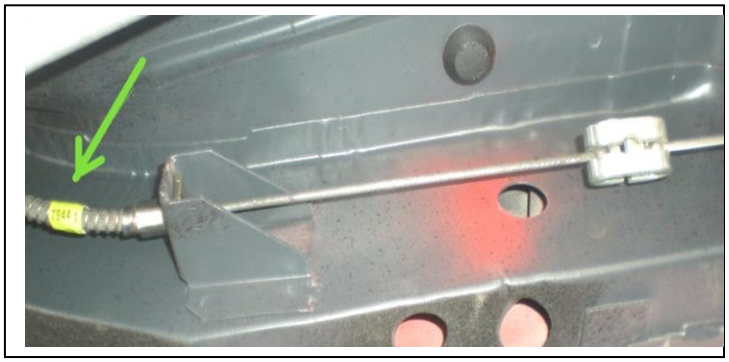
1971-74 Parking Brake Cables and Related Components

1971-74 parking brake hardware finishes as follows:

Rear Connector (2 per car) Silver (Clear) Zinc – Part # 2071094
Adjuster Rod Grey (Black) Phosphate – part # 3467918
Center Connector Hot Dip Galvanized – part # 3467950
Center Hook Silver (Clear) Zinc – Part # 3467903

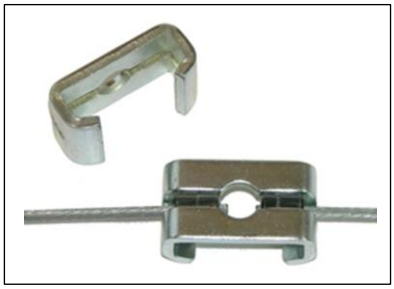


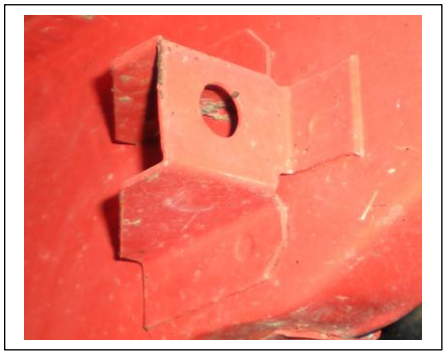
1971-74 reference left



1971-74 reference: Link bracket should be zinc plated. Part ID tags have been found wrapped around the brake cable at the end before it is secured to the mounting bracket on the frame rail.

Parking brake cable support bracket position starting in 1971 on right hand frame rail

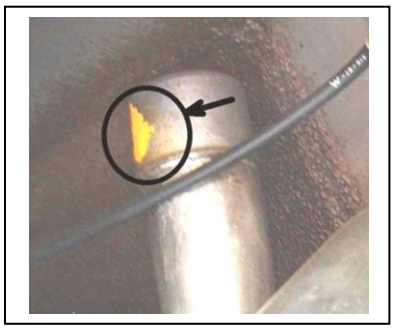




Evaporative Control System (N95 option).

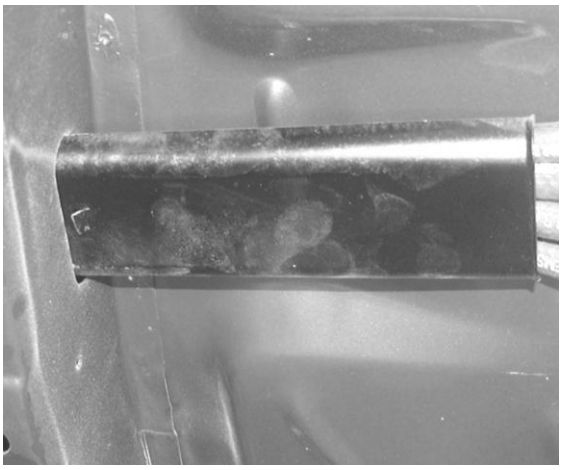
This option was on all cars registered in the state of California. This consisted of a special vented fuel tank system that has a receiver pipe mounted in the trunk. The seal used is black rubber with a steel reinforced mounting area. The seal is secured to the trunk floor with four (4) #10 Pan head zinc plated Phillips drive screws with captured washers. The pipe is galvanized finish.

There is often a school bus yellow inspection paint mark of the side of the top cap of the pipe. There should be a phosphate coated plate mounted to the back portion of lower part of the right wheel well to protect the rubber hoses from road debris. The rubber hoses are connected to the steel lines and nipples on the fuel tank with Keystone Type clamps.



There are five (5) ports on the side of the fuel tank; four (4) go to the vapor canister in the trunk (nothing more than a vapor trapping and returning tube), the 5th line leads to the vapor return line that runs forward to the engine and then attaches to the three nipple valve cover vent cap.

Note: The shield covering the hoses is different between 1970 and 1971-2. The extra pipe in the trunk eliminated in early in 1972 production. A small vapor tank replaced this pipe and was installed on the rear shock cross member.

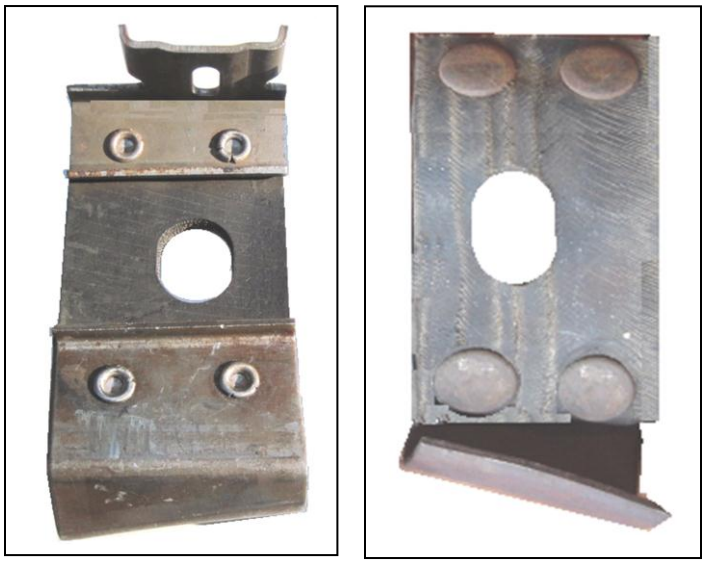


All rubber hoses 1970-74 are stamped with KV and were secured to the fuel tank with keystone type clamps

Challenger Trans Am and Cuda AAR Muffler Hangers

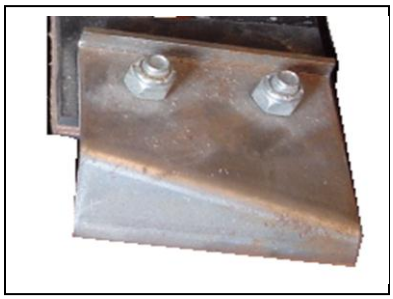
We have found a few variations in the hangers through the years. Generally the easiest was to distinguish the original from after market is the rivets and style of rubber. There are typically 2 features of the rubbers that differentiate the original from aftermarket. The rubber of original assembly line hangers is reinforced with thread and typically has some type of noticeable texture as compared to the aftermarket ones that are not thread reinforced and typically the aftermarket rubber is not.

It also seems that the center hole in the rubber on the aftermarket ones is round and the original is more of an oval or at least an elongated hole.



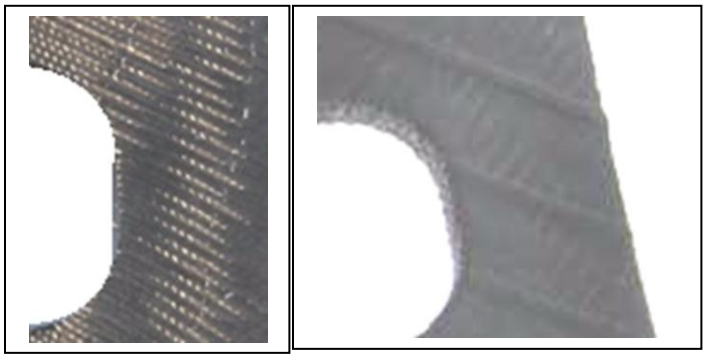
Assembly line original reference

Aftermarket hanger



Aftermarket hanger back side. As you can tell rivets are not used.

Note: There have been some variations in the rivet head styles found. We have not determined if the on the left is an assembly line original or a dealer after market replacement. The back side of the rivets is almost identical for both.



Typical factory original rubber texture

7. Frame Related

Rear Spring Reinforcement (torque) Boxes
These rear spring supports were stamped steel plates that were welded between the rocker panel and frame. They are located just in front of the rear leaf springs. They were required for all convertibles and cars with 440 engine and manual transmissions, 440+6 and 426 engines.

► **Judges Guidance:** There has been some variation to this process in the factory. If the reinforcement boxes are not in place and the car can be verified as a convertible, 440 +6 or Hemi car full credit should be given.

Note: Frame rails - 1970 thru 72 are interchangeable. There are differences in the torque box area. 1973 and 74 rails are different than 1971-72. They are taller and the mounting areas for the K frame are different. You can use 73-74 rail parts to section 1970 -72 rails but you can't interchange them. 1970 E bodies the same part numbers - Right side is part # 2934810 and left is part # 2934811 and lists with reinforcement, but 1971-72 (book only goes to 72) shows right side is part # 3752936 and left is part # 3752937 and lists with front hanger.

1971 standard rear frame without reinforcement box or plate .

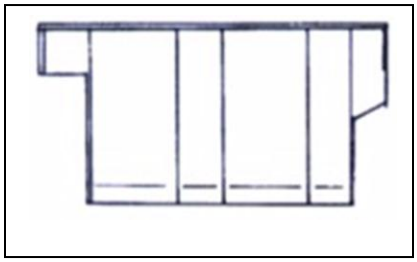
1970 440 + 6 or Hemi reference reinforcement plate inside of the rear torque box

Splash Shields

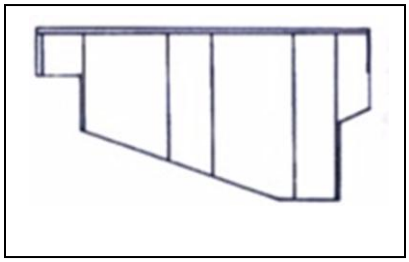
There is one black plastic splash shield mounted to the RH and LF front frame. It is located between the K frame mounting bolts and above the strut rod. This shield should have the Chrysler part number and vendor code molded into the plastic. In general Hex washer head self tapping screws are used to secure the shields to the frame. However, large headed aluminum rivets are acceptable.

Style Ref	Year and Body	Comments
A	1966-72 A, 1966-69 B and 1970-71 E	#2800658(RH) and 2088659 (LH) Straight bottom
B	1969-72 B and 1970-72 E	Single angle bottom
C	1973-74 A and 1973-74 E	Double angle bottom

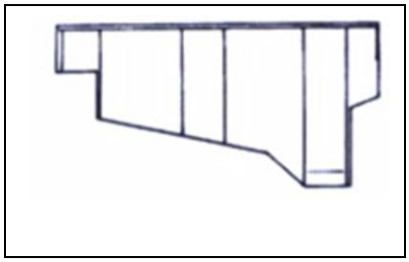
► **Judges Guidance:** Carefully inspect the fasteners used to secure the shield to the frame as well as the configuration of the shield. There are multiple designed shields for various bodies.



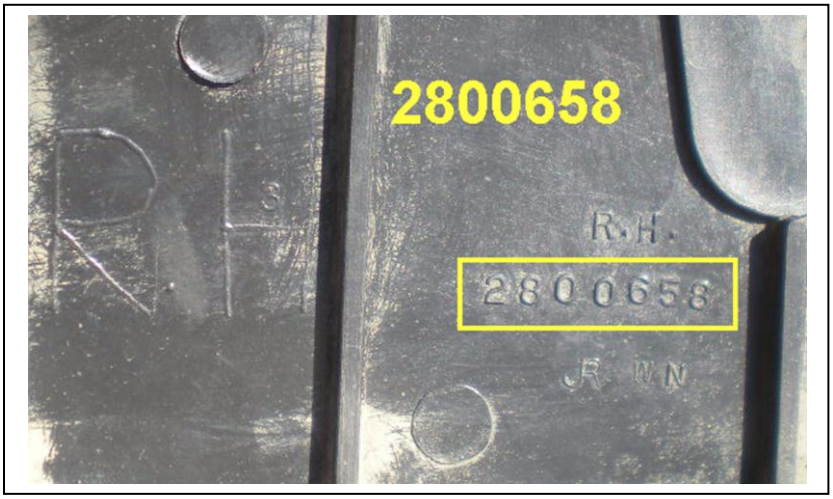
Style A



Style B



Style C



Shield reference RH Ref # 2800658. Vendor markings molded into the plastic JR WN.