

Fig. 1A-1 Perimeter Design Frame

FRAME AND BODY MOUNTINGS

GENERAL DESCRIPTION

FRAME

The Tempest swept hip perimeter design frame (Fig. 1A-1) is a basic box configuration with parallel side rails extending just under the inside edges of the body rocker panels. The side rails move inboard front and rear through blended swept hips forming a mounting and a kick-up for clearance over the rear suspension.

Three major cross members are an integral part of the frame. The rear-most cross member provides for impact bar attachment provisions and added rear end structural rigidity. The cross member at the rear kick-up provides for rear suspension mounting and the front cross member provides for engine and front suspension mounting and over-all structural rigidity. An additional cross member, mounted in rubber, supports the rear of the transmission. The rubber mounting permits only a minimum transmission of drive train disturbances to the passenger compartment. The radiator baffle and lower support assembly mounts to the extreme front end of the frame through rubber cushions. The main function of this cross member is to provide support for the sheet metal, but it also adds some structure to the frame assembly.

Two frames designed for optimum tuning are used for all Tempest series models (Fig. 1A-1). The basic frame for the sedans and station wagons

has a fully boxed front section and open "C" section center side rails extending to the rear hip area. The convertible frame is of heavier metal thickness and has a boxed section front and center side rail with an additional inner side bar stiffener (boxed section) beginning at the rear end of the rear wheelhouse (number six body bolt) and extending rearward to the rear impact bar attaching bolts.

The dimensions given in Fig. 1A-2 may be used in checking frames.

Dimensions for X, Y and Z are not given, but are used merely to illustrate the points for taking diagonal measurements for checking the squareness of a frame. Holes are located on the frame at the approximate terminal point of the arrowheads, and can be used for this purpose.

LIFTING PONTIAC CARS WITH HOISTS

Lifting can be accomplished without adapters with drive-on type or twin post-type hoists, or with hoists or lifts making contact with the front suspension lower arms or rear axle. Since the frame is the perimeter type, some hoists designed to contact side rails require adapters to raise the car without damage to parts of the exhaust system, body, floor, etc. Suppliers of the original lifting equipment should have information on adapters to use with Pontiac cars.

Fig. 1A-3 shows the proper location for placing adapters so that they correctly contact the perim-

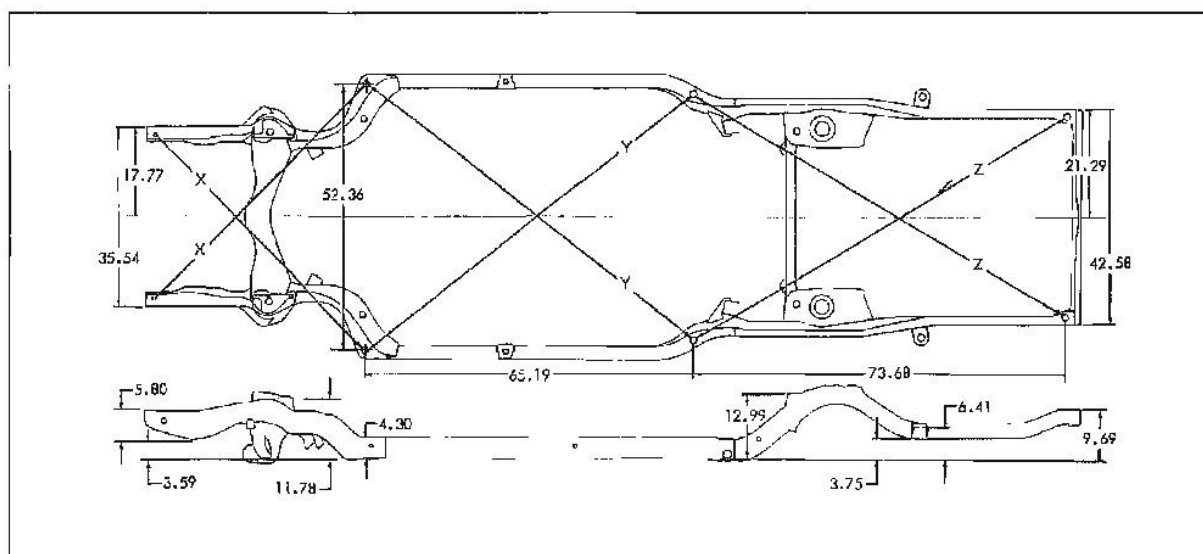


Fig. 1A-2 Frame Checking Chart

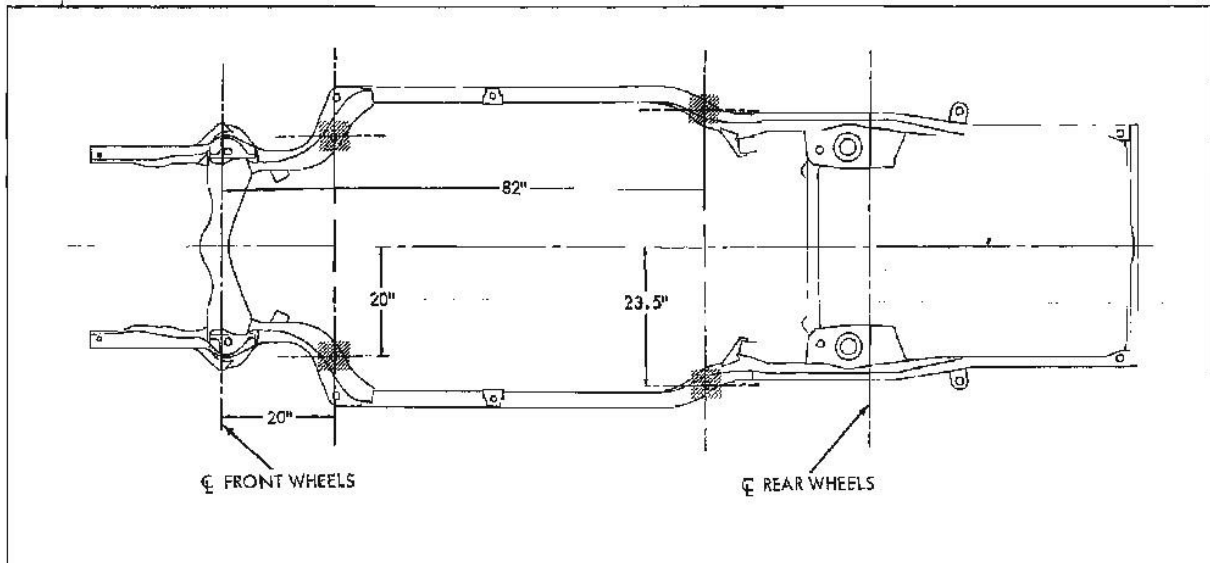


Fig. 1A-3 Proper Location for Adapters

eter-type frame. At front of car, the supports should be 20" behind the center line of the front wheels and 20" to each side of the center line of the car. The rear supports should be placed 82" from the center line of the front wheels and 23.5" to each side of the center line of the car. The clearance at these points is 6.2" at front and 6.3" at rear.

BODY TO FRAME MOUNTINGS

Total isolation of noise to body interior is accomplished with thick soft butyl rubber mounts (Fig.

1A-4). Seven mounts are used on each side of the body for a total of fourteen mounts per car. All body mounts are the same except the chassis sheet metal mounting and No. 3 mount. The No. 3 body cage nut has a special "T" nut and requires a specific design cushion to accommodate the "T" nut.

A 2-3/16" x 7/16" - 14 hex bolt is used at position No. 3 and a 2-3/8" x 7/16" - 14 hex bolt is used at remaining positions.

All body bolts should be tightened to 25-40 lb. ft. torque.

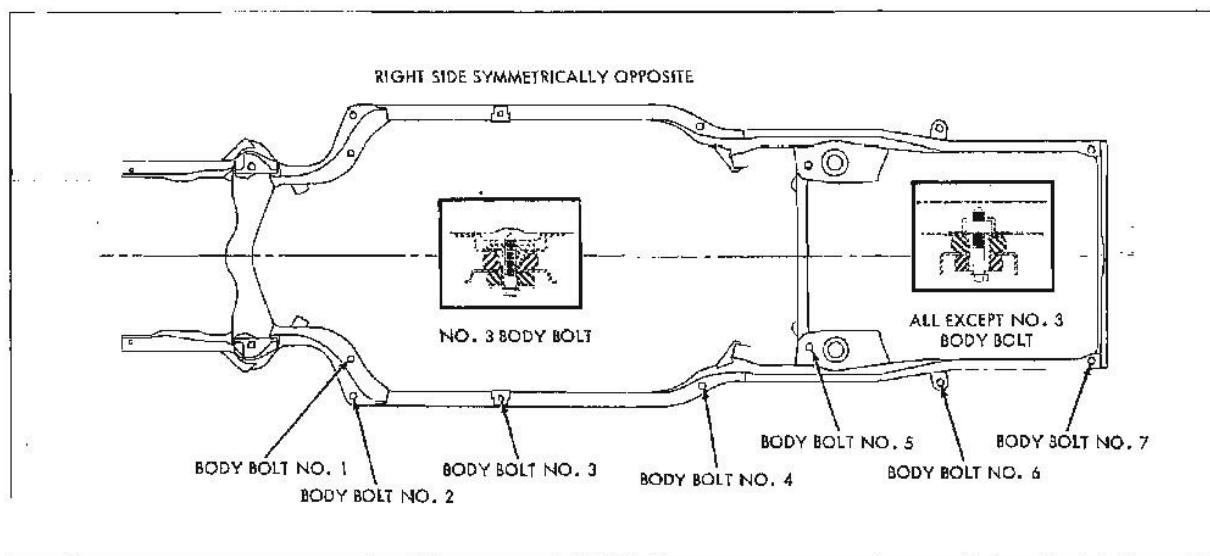


Fig. 1A-4 Location of Body Bolts on Frame