



Calveran

SUBJECTIVE RATING OF TOOTH BELT NOISE

(A) TOOTH BELT WHINE

Definition: Mixture of tooth mesh frequency and its harmonic. Most important criterium for tooth belt noise.

Rating to GM Subjective Rating Scale

- a) With the vehicle stationary, engine idling, and clutch engaged, rapidly depress the accelerator to obtain an engine speed of 1 500 rpm maximum, subsequently increase engine speed in increments of approx. 500 rpm until whine is no longer audible at maximum speed. Evaluation by an observer standing directly in front of the vehicle, engine hood open.
- b) Instead of rapid accelerator depressions increase engine speed slowly and steadily for possible measurement-supported evaluations, determine engine speed at which max. whine occurs.

(B) TOOTH BELT SMACK

Definition: Noise produced relative to the frequency of the running tooth belt.

Subjective Rating

-Ref. a) and b), audible only when the observer is standing directly in front of the vehicle when the hood is open.

(C) TOOTH BELT WHISTLE

Definition: ref. A)

Subjective Rating

-Drive at medium and high engine speeds 2,000 to 5,000 rpm, whistle is audible only if tooth belt tension is above 200 N or if the tooth belt sprockets are axially displaced .



Rating Conditions

- The ratings described shall be made with the engine at operating temperature (thermostat open).
- Toothed belt tension to drawing specification.

Optional Measurements

(same operating conditions as subjective rating)

- Sound pressure measurement about 10 cm before camshaft sprocket, by narrow band spectral analysis at constant speed of max. whine determined subjectively before, vehicle stationary, fan, blower etc. out of operation.