FRONT WHEEL ALIGNMENT (4WD and PRERUNNER)

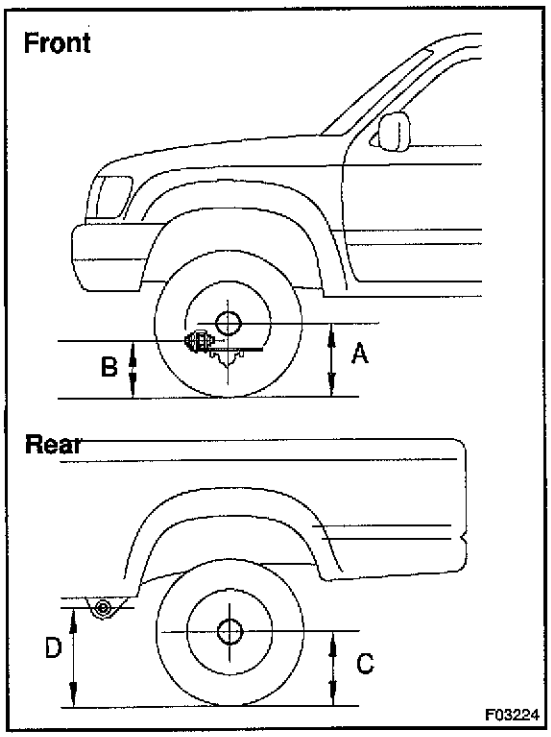
SA0LC–01

INSPECTION

HINT:

Prerunner is the model described below.

RZN193L–PRMDK, LN191L–PRMDS



1. **MEASURE VEHICLE HEIGHT (See page SS–21)**

Front: A – B

Rear: C–D

Measuring points:

A: Ground clearance of spindle center.

B: Ground clearance of lower suspension arm front bolt center.

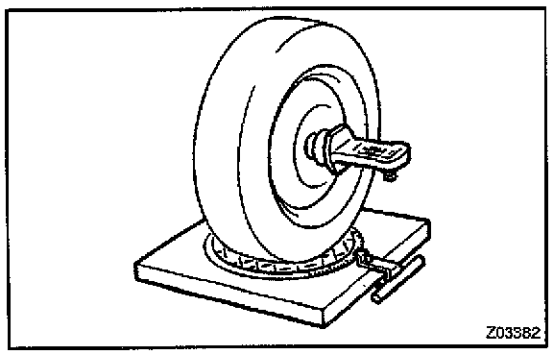
C: Ground clearance of rear axle shaft center.

D: Ground clearance of leaf spring front hanger pin center.

NOTICE:

Before inspecting the wheel alignment, adjust the vehicle height to specification.

If the vehicle height is not within the specification, try to adjust it by pushing down on or lifting the body.

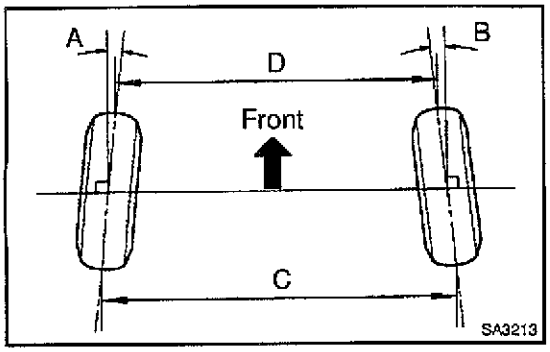


2. **INSTALL CAMBER–CASTER–KINGPIN GAUGE OR TIRE ONTO WHEEL ALIGNMENT TESTER**

Follow the specific instructions of the equipment manufacturer.

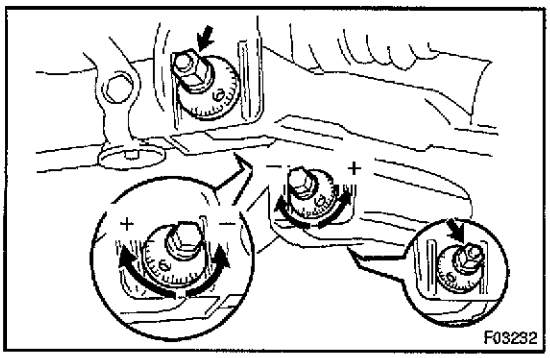
3. **INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION (See page SS–21)**

If the steering axis inclination is not within the specification, after camber and caster have correctly adjusted, recheck the steering knuckle front wheel for bearing or looseness.



4. **INSPECT TOE–IN (See page SS–21)**

If the toe–in is not within the specification, adjust the tie rod ends.



5. ADJUST CAMBER AND CASTER

(a) Loosen the front and/or rear adjusting cam nuts.

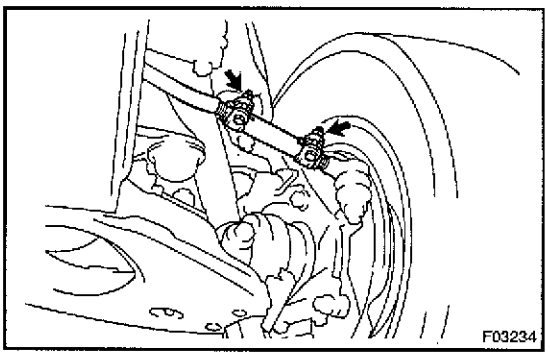
(b) Adjust the camber and caster by front and/or rear adjusting cams (See page SA–12).

HINT:

Try to adjust the camber and caster to the center value.

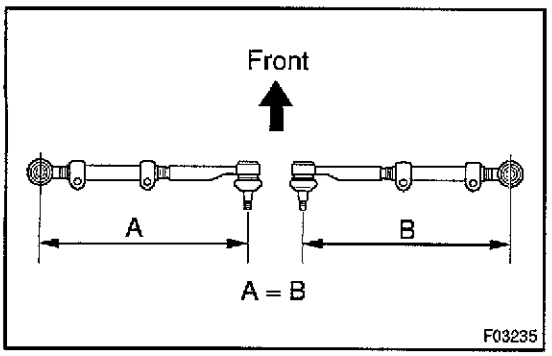
(c) Torque the front and/or rear adjusting cam nuts.

Torque: 195 N·m (2,000 kgf·cm, 145 ft·lbf)



6. ADJUST TOE–IN

(a) Remove the 2 clamp nuts.

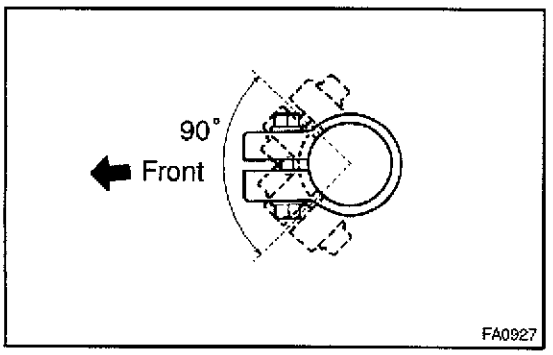


(b) Adjust toe–in by turning the left and right tie rod tubes an equal amount.

HINT:

- Try to adjust the toe–in to the center value.
- Make sure that the length of the left and right tie rod ends are equal.

Tie rod end length difference:
3.0 mm (0.118 in.) or less



(c) Torque the clamp nuts.

Torque: 22 N·m (225 kgf·cm, 16 ft·lbf)

HINT:

Face the clamp bolts toward the front of the vehicle.

7. INSPECT WHEEL ANGLE

(a) With the vehicle unladen, turn the ignition switch ON and turn the steering wheel (steering effort: 20 N·m (2 kgf·m, 14 ft·lbf)) then measure the wheel angle.

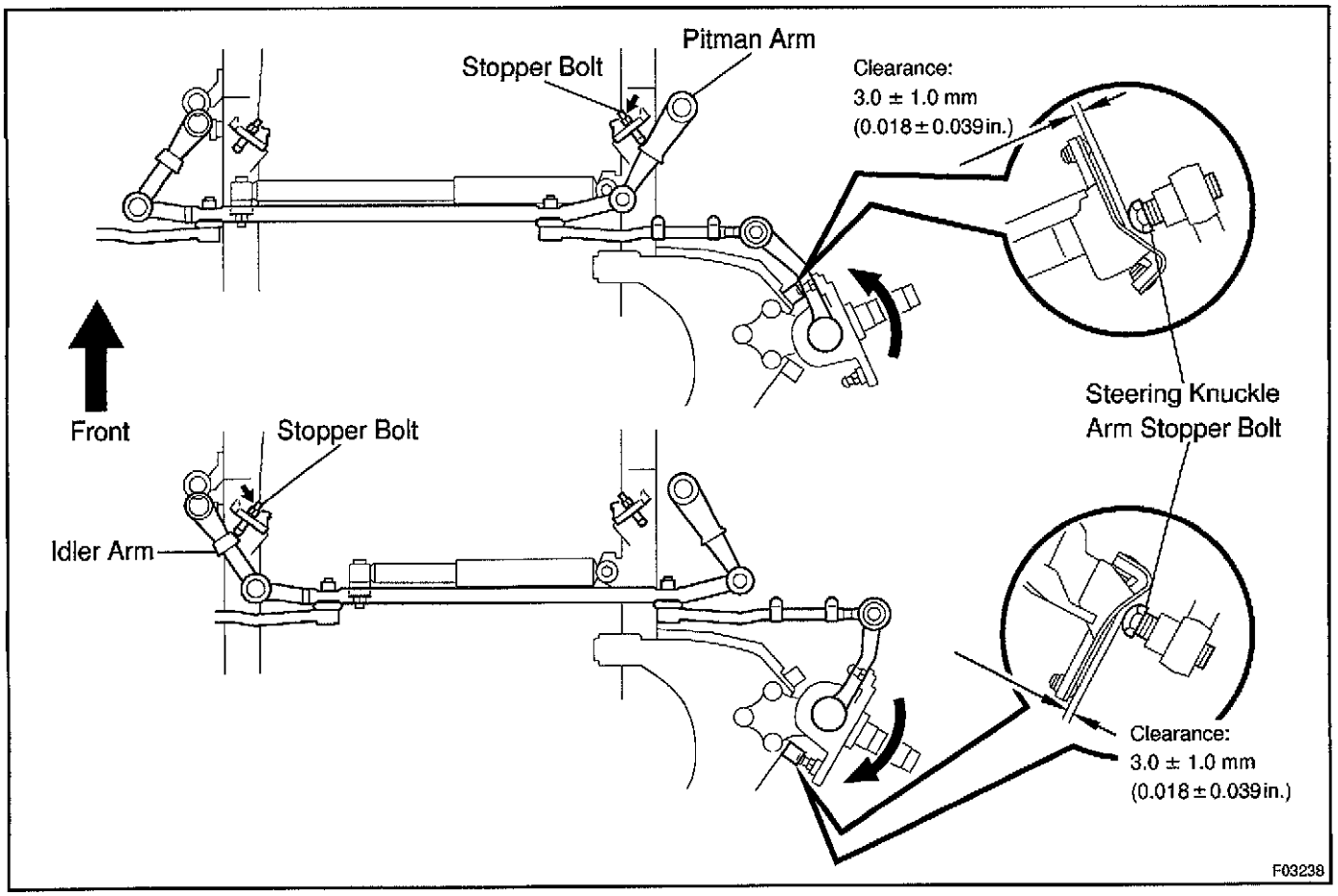
Inside wheel	Outside wheel (Reference)
33° (31° – 34°)	32°

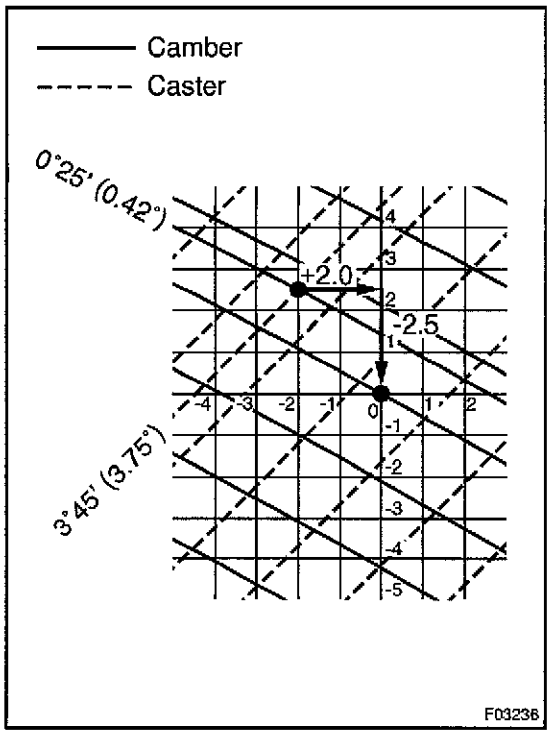
If the maximum wheel angles differ from standard value, adjust the steering angle with the pitman arm and idler arm stopper bolts.

Torque: 72 N·m (730 kgf·cm, 53 ft·lbf)

(b) Measure the clearance between the stopper bolt on the steering knuckle side and bracket on the lower suspension arm side at the maximum wheel angles.
Clearance: 3.0 ± 1.0 mm (0.118 ± 0.039 in.)
Torque: 72 N·m (730 kgf·cm, 53 ft·lbf)

If the value is not within the standard, adjust the stopper bolt on the steering knuckle side.





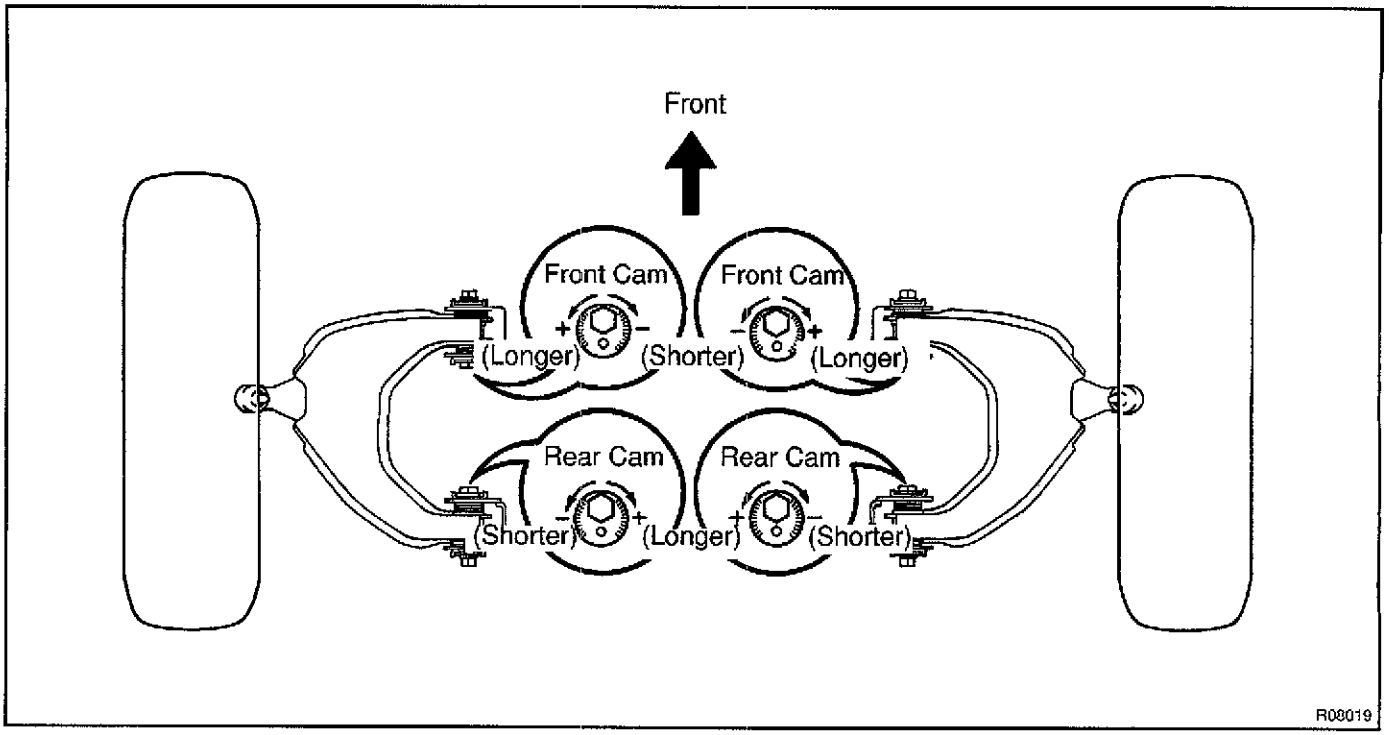
8. HOW TO READ ADJUSTMENT CHART

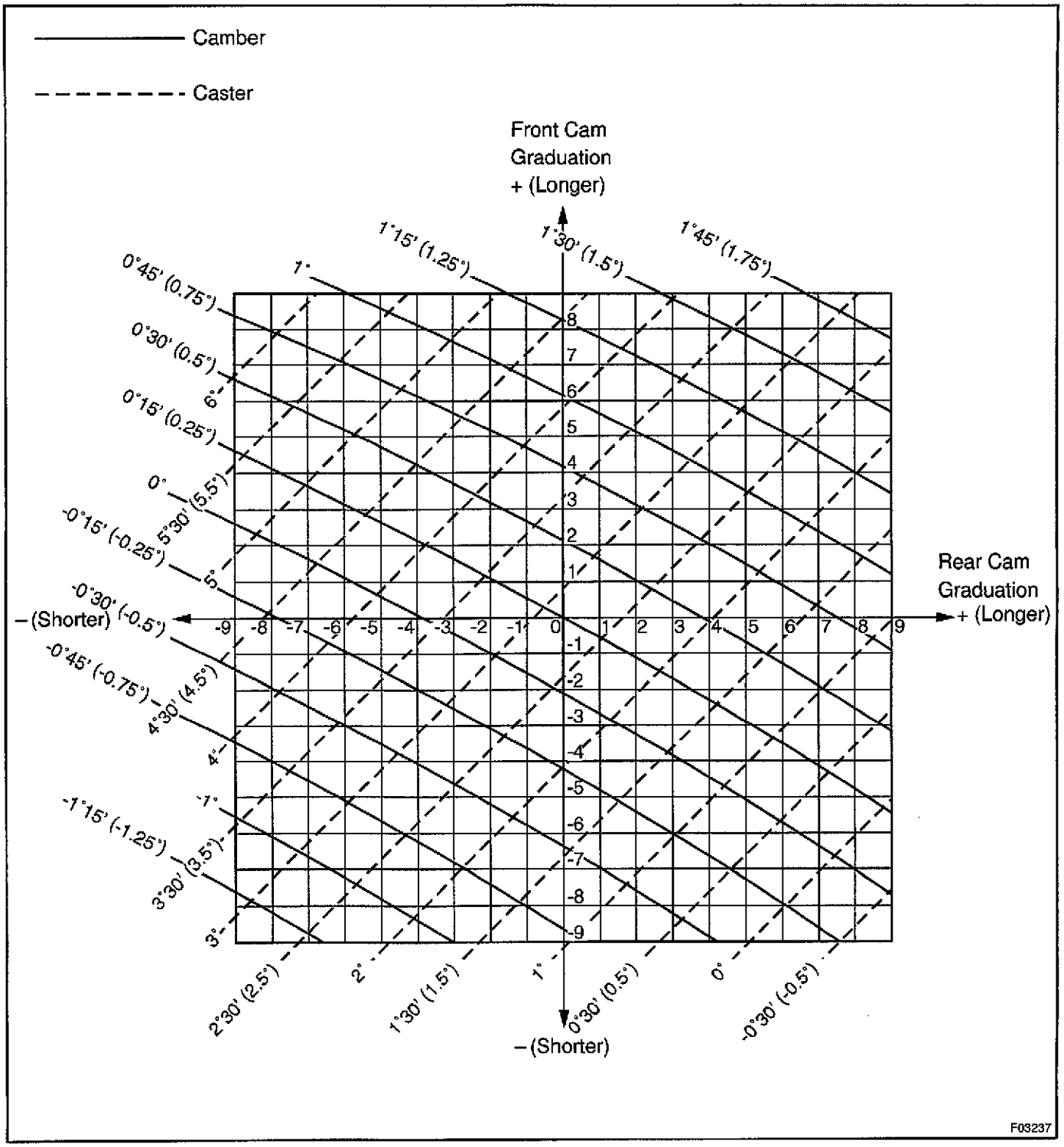
(a) Mark on the graph the measurements taken from the vehicle.

Example:
Camber: 0°25' (0.42°)
Caster: 3°45' (3.75°)

(b) As shown in the chart, read from the graph the amounts by which the front and/or rear cams are to be adjusted.

Amounts to turn adjusting cam (by graduation):
Front cam: – (Shorter) 2.5
Rear cam: + (Longer) 2.0




Camber
Caster
Front Cam
Graduation
+ (Longer)
1°15' (1.25°)
1°30' (1.5°)
1°45' (1.75°)
1°
0°45' (0.75°)
0°30' (0.5°)
0°15' (0.25°)
0°
-0°15' (-0.25°)
-0°30' (-0.5°)
-0°45' (-0.75°)
-1°15' (-1.25°)
6°
5°30' (5.5°)
5°
4°30' (4.5°)
4°
3°30' (3.5°)
3°
2°30' (2.5°)
2°
1°30' (1.5°)
1°
0°30' (0.5°)
0°
-0°30' (-0.5°)
8
7
6
5
4
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9
– (Shorter)
Rear Cam
Graduation
+ (Longer)
– (Shorter)
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