



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**

**DOT Auto Safety Hotline**

**Vehicle Owner's Questionnaire  
To Report Vehicle Safety Defects**

**1-888-DASH-2-DOT  
(1-888-327-4236)**

**INTERNET: www.nhtsa.dot.gov/hotline**

FOR AGENCY USE ONLY 100148

Date Received

Repository ☐

Reference No.  
10171073

2006 NOV 17 OCT 2006 2:15

**OWNER INFORMATION (Type or Print)**

Name

Address

City

EASTON

State PA

Zip Code

Daytime Telephone Number

E-mail Address

Evening Telephone Number

Signature of Owner \_\_\_\_\_ Date 10/22/06

**VEHICLE INFORMATION**

17 digit Vehicle Identification Number Located at bottom of windshield on driver's side

1G8JU54F52

Make

SATURN

Model

L200

Model Year

2002

Date Purchased  
29-MAR-02

Dealer's Name and Telephone Number

Engine:  
No: Cylinders 4

Fuel Type:  
Gas

Original Owner

☒

Dealer's City

State

Zip Code

Transmission Type

AUTOMATIC

☒ Antilock Brakes

☒ Cruise Control

Powertrain

FRONT WHEEL DRIVE

Vehicle Component Code

061000 ENGINE AND ENGINE COOLING:ENGINE

Multiple Failure: 1

**FAILED COMPONENT(S)/PART(S) INFORMATION**

Incident Date(s)  
06-OCT-2006

Failure Mileage  
51406

Failure Speed  
40

**ADDITIONAL ITEMS TO BE COMPLETED WHEN REPORTING A TIRE FAILURE**

Tire Make

Tire Model (Name or Number)

Tire Size (Example P215/65R15)

DOT No. (Example: DOTM19ABC036)

☐ Original Equipment  
☐ Prior Repair

Failure Location:

Tire Component Code

Tire Failure Type

**ADDITIONAL ITEMS TO BE COMPLETED WHEN REPORTING A CHILD SEAT FAILURE**

Make:

Date Manufactured:

Model No./Name:

Seat Type:

Installation System:

Child Seat Component Code:

Failed Part:

**APPLICABLE INCIDENT INFORMATION**

(Please describe in detail the incident(s), Failure(s), Crash(es), and injury(ies).)

Crash

☐ Yes ☒ No

Fire

☐ Yes ☒ No

Number of Persons Injured

0

Number of Deaths

0

Reported to Police

N

**Narrative Description of Incident(S), Crash(es), and Injury(ies).**

Please describe (1) events leading up to the failure, (2) failure and its consequences, and (3) what was done to correct the failure; i.e, parts repaired or replaced (and if old part is available).

DT\*: THE CONTACT STATED WHILE DRIVING 40 MPH, THE ENGINE POWER SURGED A COUPLE OF TIMES, THEN ALL POWER FAILED AND THE VEHICLE DRIFTED TO A STOP. WHEN TOWED TO AN INDEPENDENT MECHANIC, THE CONTACT WAS TOLD TO TAKE THE VEHICLE TO AN AUTHORIZED SERVICE DEALER. ON INSPECTION IT WAS FOUND THAT THE TIMING CHAIN HAD FRACTURED.

Include, if available: Police/Fire Department Report, Photos, and Repair Invoice.

ATTACH ADDITIONAL SHEETS IF NECESSARY

The Privacy Act of 1974-Public Law 93-579 This information is requested pursuant to authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond this questionnaire. Your response may be used to assist the NHTSA in determining whether a Manufacturer should take appropriate action to correct a safety defect. If the NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.

10/22/06

To Whom it may Concern -

On Thursday, Oct. 5, 2006 we made a trip to Scranton, Pa. We returned on Rt. 380 S. before 6:00 P.M. & exited to Rt. 611 S. Tannersville, Pa. At Mt. Pocono, the motor shut off. We parked, & Called A.A.A. for a tow truck. We also had to call our son in Easton to come & pick us up.

After 7:00 P.M. the tow truck arrived & towed our car to T. & H. Auto on Bushkill St. Easton. The next day, Friday, Oct. 6, [REDACTED] went to T. & H. & spoke to [REDACTED] owner, who confirmed, it was the Timing Chain. Then [REDACTED] went to the Saturn dealer on Rt. 33, Easton & spoke to Larry Fotta, Service Manager.

He said the car had to be towed to the Saturn dealer, which cost us \$65.00. We were told Saturn may pay for the towing. They should have right fully have done so.

Mr. Taylor informed us that there is a bulletin on this problem & Saturn is aware of it. The Car is a 2002 L200 Model & should have been recalled & repaired - but Never was.

The car was repaired at Saturn - but they only paid  $\frac{1}{3}$  the cost. We paid \$1485.96 the balance. The part they paid only included parts - so they said. Rightfully they should have paid the total cost, since they knew of the problem & never recalled the car. This is totally unacceptable to us.

Secondly, we are retired & live on a fixed income. The expense we paid took all of [REDACTED] Social Security check! This financial burden should not be on us. We were totally unaware of the problem, until after it happened, leaving us stranded on Rt. 611 in Mt. Pocono.

While being repaired, that left us without a car for 11 days. Saturn offered us a rental car, at our expense also. So, not only were we financially put out - but inconvenienced as well.

After being repaired by Saturn, [REDACTED] went back to Mr. Taylor about it. He looked in a Manual which had information

2

on the repairs. according to the Chilton Labor Manual, the Complete job should have been done for \$600.00, including Labor!

This is totally unfair to us + to the public. Saturn was aware of a design defect in this 2002 model Saturn + yet never recalled the vehicle + repaired it. They are making money on this problem, at the cost to the owner.

To make things right Saturn should be made to recall these cars with this problem + repaired. Our money should be refunded, as the responsibility is on Saturn to make things right.

Sincerely,



**Make:** SATURN  
**Model:** LS  
**Year:** 2000  
**NHTSA Action Number:** PE06006

**Summary:**

ON DECEMBER 12, 2005, ODI RECEIVED A DEFECT PETITION (DP05-008) REQUESTING THE INVESTIGATION OF TIMING CHAIN FAILURES THAT COULD CAUSE STALLING IN SATURN VEHICLES EQUIPPED WITH THE 2.2L (L61) ENGINE. ODI OPENED PE06-006 ON JANUARY 24, 2006, WITH 24 VEHICLE OWNER COMPLAINTS THAT ALLEGED A BROKEN TIMING CHAIN CAUSED THE VEHICLE TO STOP OPERATING. ON APRIL 12, 2006, ODI RECEIVED INFORMATION FROM GENERAL MOTORS (GM) CONCERNING TIMING CHAIN FAILURES IN APPROXIMATELY 412,000 MODEL YEAR (MY) 2000 THROUGH 2003 SATURN L-SERIES AND ION VEHICLES WITH 2.2L ENGINES. GM'S RESPONSE INCLUDED 1,020 OWNER COMPLAINTS AND FIELD REPORTS CONCERNING TIMING CHAIN FAILURE, INCLUDING 228 THAT ALLEGED THE FAILURE CAUSED THE VEHICLE TO STALL WHILE DRIVING. GM ALSO PROVIDED WARRANTY CLAIM DATA THAT SHOWED 1,902 SUBJECT VEHICLES RECEIVING TIMING CHAIN REPAIRS, INCLUDING 261 WHICH INDICATED THAT A STALL WHILE DRIVING RESULTED FROM THE FAILURE. THE GM COMPLAINTS, FIELD REPORTS AND WARRANTY CLAIMS THAT DID NOT CONTAIN SUFFICIENT INFORMATION TO DETERMINE THAT A STALL WHILE DRIVING OCCURRED WERE PROVIDED IN THE CATEGORY "OTHER." GM STATED THAT THE MAJORITY OF THESE INCIDENTS PROBABLY OCCURRED WHILE THE VEHICLES WERE PARKED "SINCE THE TIMING CHAIN IS MORE LIKELY TO BREAK DURING HIGH CHAIN LOAD SITUATIONS, SUCH AS ENGINE STARTUP." GM'S DATA SHOWED ELEVATED FAILURE RATES IN APPROXIMATELY 20,500 MY 2001 L-SERIES VEHICLES PRODUCED DURING A FOUR MONTH PERIOD FROM NOVEMBER 2000 THROUGH FEBRUARY 2001. OVER ONE-THIRD OF GM'S TOTAL COMPLAINTS AND FIELD REPORTS (34.3%) AND WARRANTY CLAIMS (38.2%) INVOLVED L-SERIES VEHICLES BUILT DURING THE 4-MONTH PERIOD, WHICH ARE ONLY ABOUT 5% OF SUBJECT VEHICLE PRODUCTION. THE TIMING CHAIN FAILURE RATE IN THE VEHICLES BUILT DURING THIS RANGE IS OVER 10 TIMES GREATER THAN THE REMAINING SUBJECT VEHICLE POPULATION. FOR THE MY 2001 L-SERIES VEHICLES BUILT DURING THE 4-MONTH PERIOD, THE 36-MONTH FAILURE RATE FOR REPAIRS INVOLVING STALL WHILE DRIVING IS SLIGHTLY UNDER ONE PERCENT. HOWEVER, IF THE INCIDENTS CODED AS "OTHER" ARE ADDED, THE 36-MONTH FAILURE RATE RISES TO NEARLY FIVE PERCENT FOR THOSE VEHICLES. ODI AND GM ARE CONTINUING TO ASSESS THE NUMBER OF COMPLAINTS AND WARRANTY CLAIMS CODED BY GM AS "OTHER" THAT INVOLVE INCIDENTS OF STALL WHILE DRIVING. GM'S STATISTICAL MODELING OF THE FAILURE DATA INITIALLY CONCLUDED THAT THE FAILURE RATES WERE DECLINING WITH AGE AND MILEAGE FOR ANY SET OF WARRANTY DATA ANALYZED (E.G., STALL WHILE DRIVING, OTHER OR COMBINED). HOWEVER, SUBSEQUENT ANALYSIS SHOWED THAT THE FAILURE RATES ARE INCREASING. BASED ON THE HIGH COMPLAINT AND WARRANTY RATES FOR TIMING CHAIN FAILURE IN THE 4-MONTH PRODUCTION PERIOD FOR THE MY 2001 L-SERIES VEHICLES, THIS INVESTIGATION HAS BEEN UPGRADED TO AN ENGINEERING ANALYSIS TO FURTHER ASSESS THE FREQUENCY OF STALL INCIDENTS DUE TO TIMING CHAIN FAILURES IN THOSE VEHICLES (EA06-009).



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

Dear Consumer:

NVS-216 aaj

As a result of your recent report to the Vehicle Safety Hotline (VSH), we have recorded that report on the enclosed Vehicle Owner's Questionnaire (VOQ) form. Please review the form and make changes, additions and corrections as necessary. Additionally, please provide a more detailed description of the failure(s) you reported that you believe is(are) relevant to safety. Also, if available, include **copies** of repair invoices, letters to the manufacturer, or any other document related to the problem(s) you reported. If a crash or fire occurred, include a **copy** of the police or fire department report.

It is helpful to be as thorough as possible in your report so that our ability to use your report will be maximized. If you do not have the information, it is not necessary to complete all the boxes. However, it is very difficult to identify the scope of a vehicle problem unless the vehicle identification number (VIN) is known. The VIN is located inside the vehicle on the dashboard adjacent to the left (driver's side) of the windshield pillar and on the driver's door or the drivers door jam. It may also be listed on the dealer's repair invoices. When reporting a tire problem, the brand name, tire name and complete tire size should be included. If possible also provide the DOT tire identification number. It is usually located near the rim flange of the tire on either side of the tire.

The Privacy Act prohibits our agency from identifying you to the manufacturer without your permission. If you wish to give us that permission, please mark the appropriate authorization box and sign the form to allow us to provide your name to the manufacturer. The information you provide may assist the manufacturer and NHTSA in determining if a safety-related defect exists.

Any information provided is entirely voluntary. There is no consequence or penalty of any kind if you do not wish to provide it. We seek this information to develop both statistical and investigative evidence that will help identify potential safety related problems in vehicle or vehicle equipment, e.g., tires, child safety seats, jacks, etc.

When completed, please fold and staple or tape the form so that the pre-address portion of the form is on the out side. If a larger envelope is used, tape the VOQ form to the larger envelope so that the pre-address portion of the form is showing.

If further assistance is needed, please contact the VSH at their toll-free number, 1-888-327-4236.

Thank you for your cooperation.

Sincerely,

Alberto A. Jimenez, Chief  
Correspondence Research Division  
Office of Defects Investigation  
Enforcement

Enclosure: VOQ



DOT AUTO SAFETY HOTLINE  
888-DASH-2-DOT  
888-327-4236

**2002 Saturn L200****INFO - TIMING CHAIN DESIGN CHANGE AND REVISED SERVICE PROCEDURES****INFO - TIMING CHAIN DESIGN CHANGE AND REVISED SERVICE PROCEDURES****TECHNICAL SERVICE BULLETIN**

Reference Number(s): 03-06-01-017, Date of Issue: June 9, 2003

SATURN: 2000-2003 L-Series with 2.2L Engine (VIN F - RPO L61); 2002-2003 VUE with 2.2L Engine (VIN D - RPO L61); 2003 Saturn ION Vehicles

SECTION: 06 - Engine/Propulsion

**PURPOSE**

The purpose of this bulletin is to communicate updated service procedures to the timing chain and timing chain oiling nozzle due to design changes that have been made to both components. All timing chain kits now available in service will include the oiler nozzle. This new nozzle has higher flow rate characteristics that will increase oil flow to the timing chain under low RPM operating conditions. Whenever replacing a timing chain, it is important to replace the oiler nozzle.

Prior edition Service Manuals for the above listed vehicles refer to the timing chain index links being colored "silver" and "copper." With the implementation of the newer design chain and oiler assembly, the index link colors have changed. In order to avoid confusion, the service procedure text has been modified to refer to the index links as two common colored and one unique colored link. Please use the procedure in this bulletin to replace all previously issued Service Manuals.

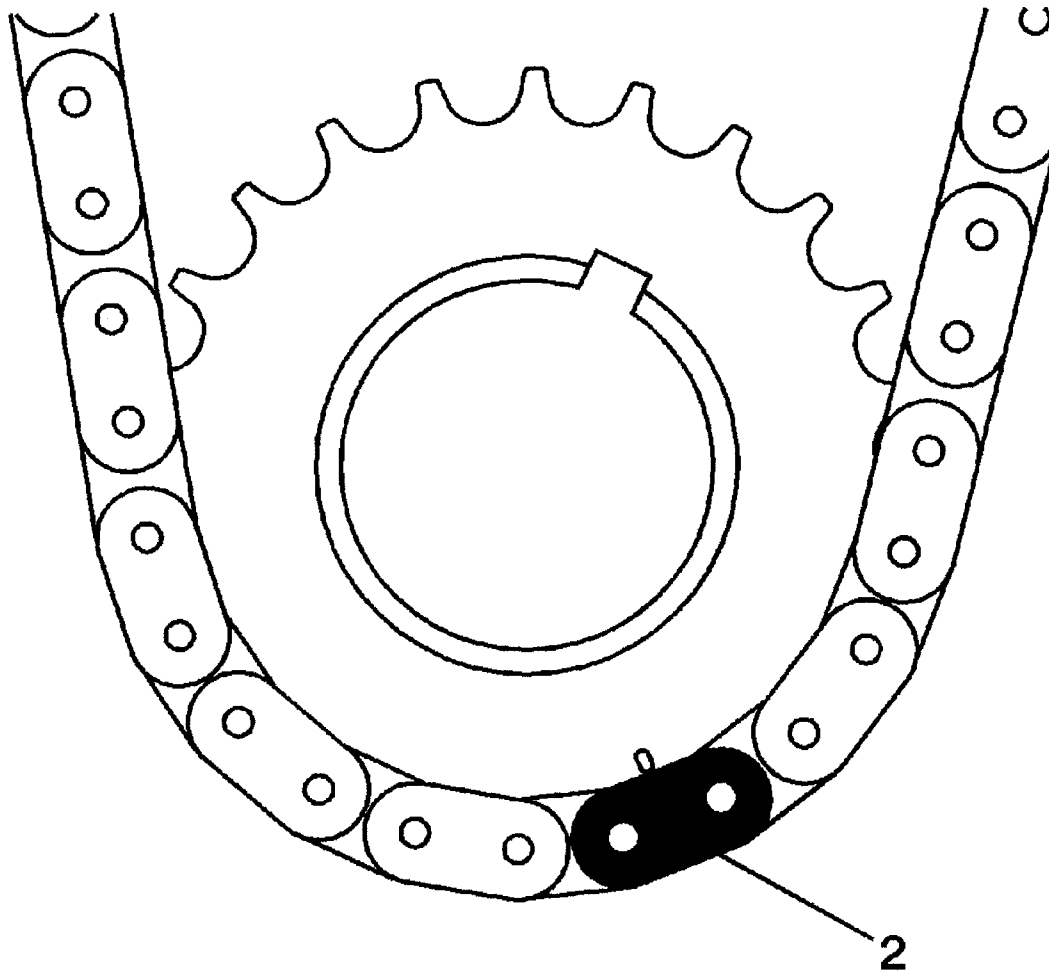
The eSI website will be updated immediately and future Service Stall System SI CD releases will include this and other Service Manual updates.

**SERVICE PROCEDURE****REMOVAL PROCEDURE**

1. Disconnect negative battery cable. Refer to Battery Negative Cable Disconnect/Connect in the appropriate model and model year Engine Service Manual.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in the General Information section of the appropriate model and model year Service Manual.
3. Remove the engine front cover. Refer to Engine Front Cover Replacement in the appropriate model and model year Engine Service Manual.

**IMPORTANT: The timing chain has two matching colored links and one uniquely colored link.**

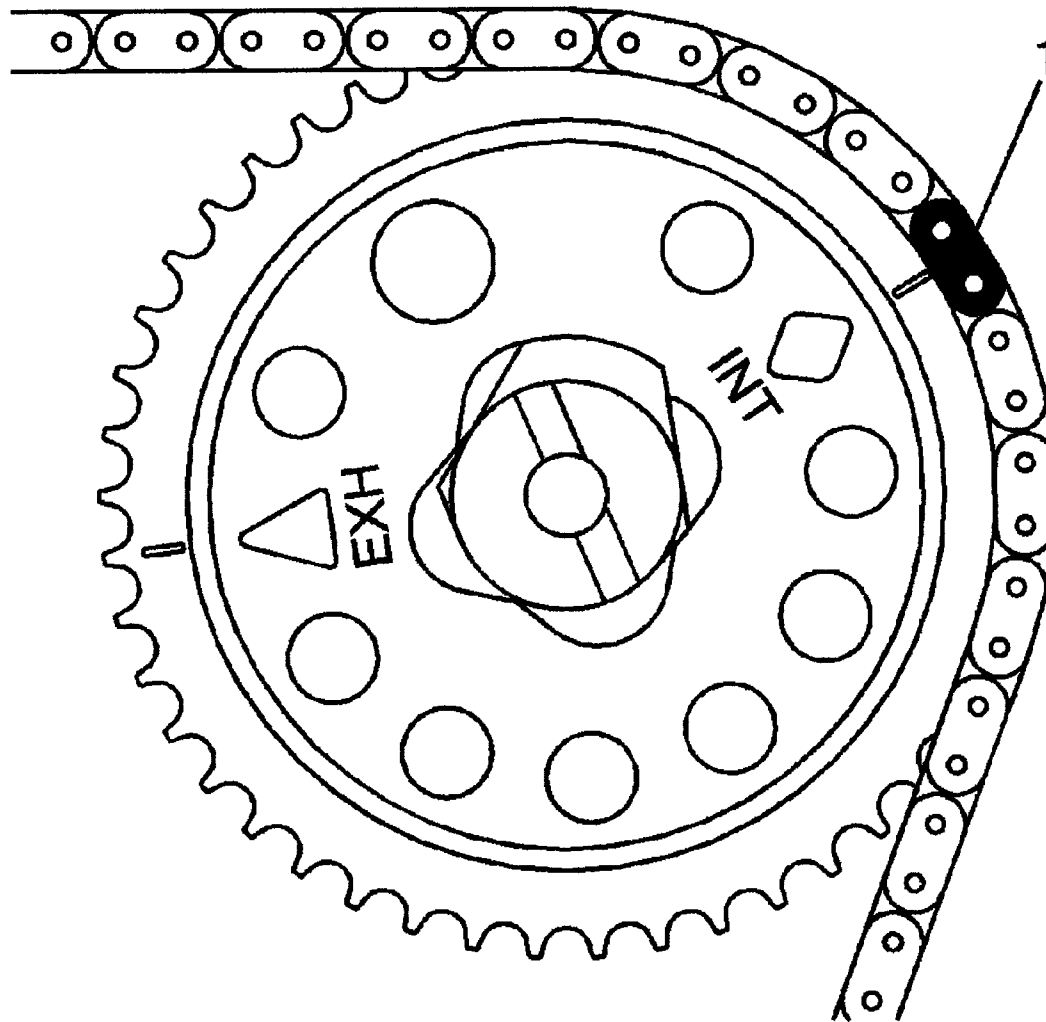
4. Rotate the engine until the crankshaft sprocket mark aligns with the matching colored link (2 in **Fig. 1**) at the 5 o'clock position.



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**Fig. 1: Crankshaft Sprocket Mark**

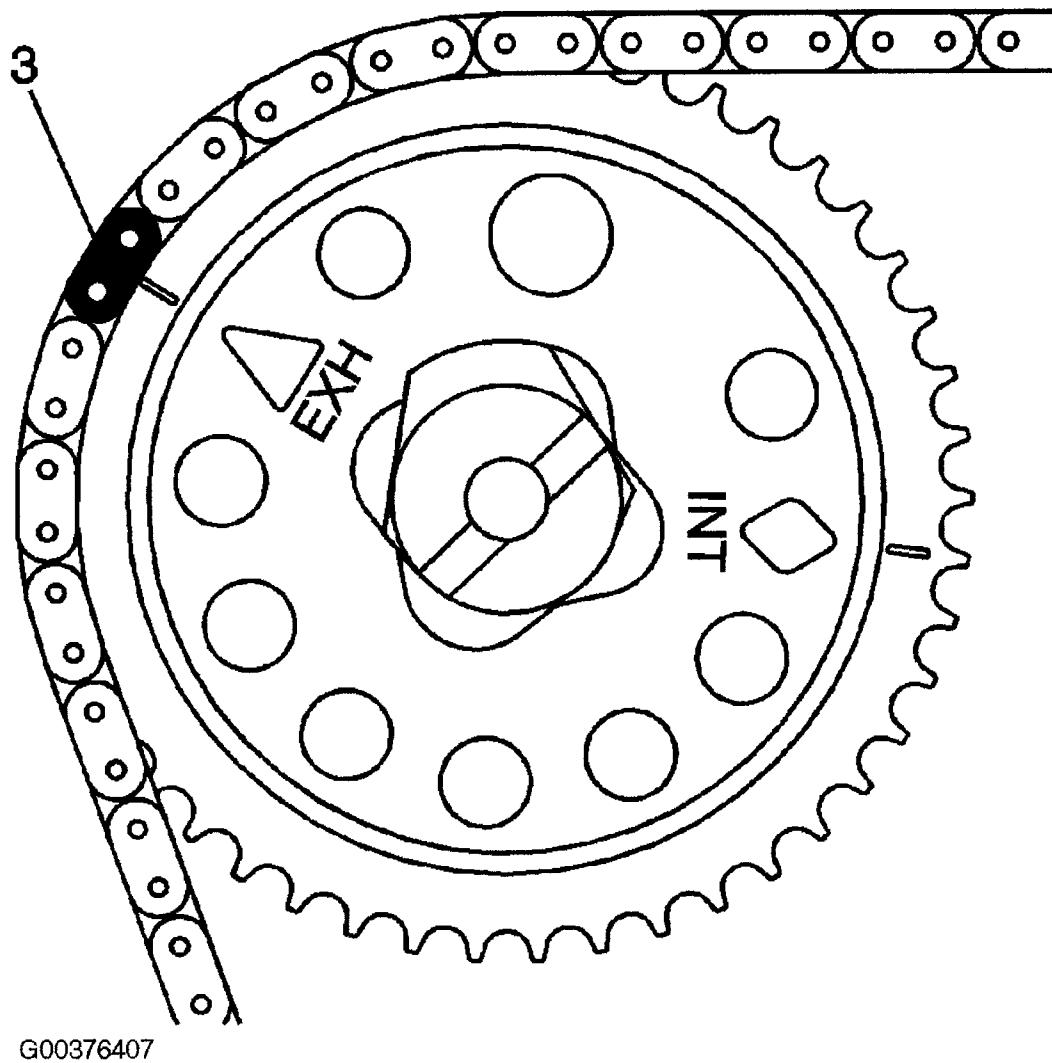
5. Lower the vehicle.
6. Remove the camshaft cover. Refer to Camshaft Cover Replacement in the appropriate model and model year Engine Service Manual.
7. Ensure that the INT diamond on the intake camshaft sprocket is aligned with the uniquely colored link (1 in **Fig. 2** ) at the 2 o'clock position.



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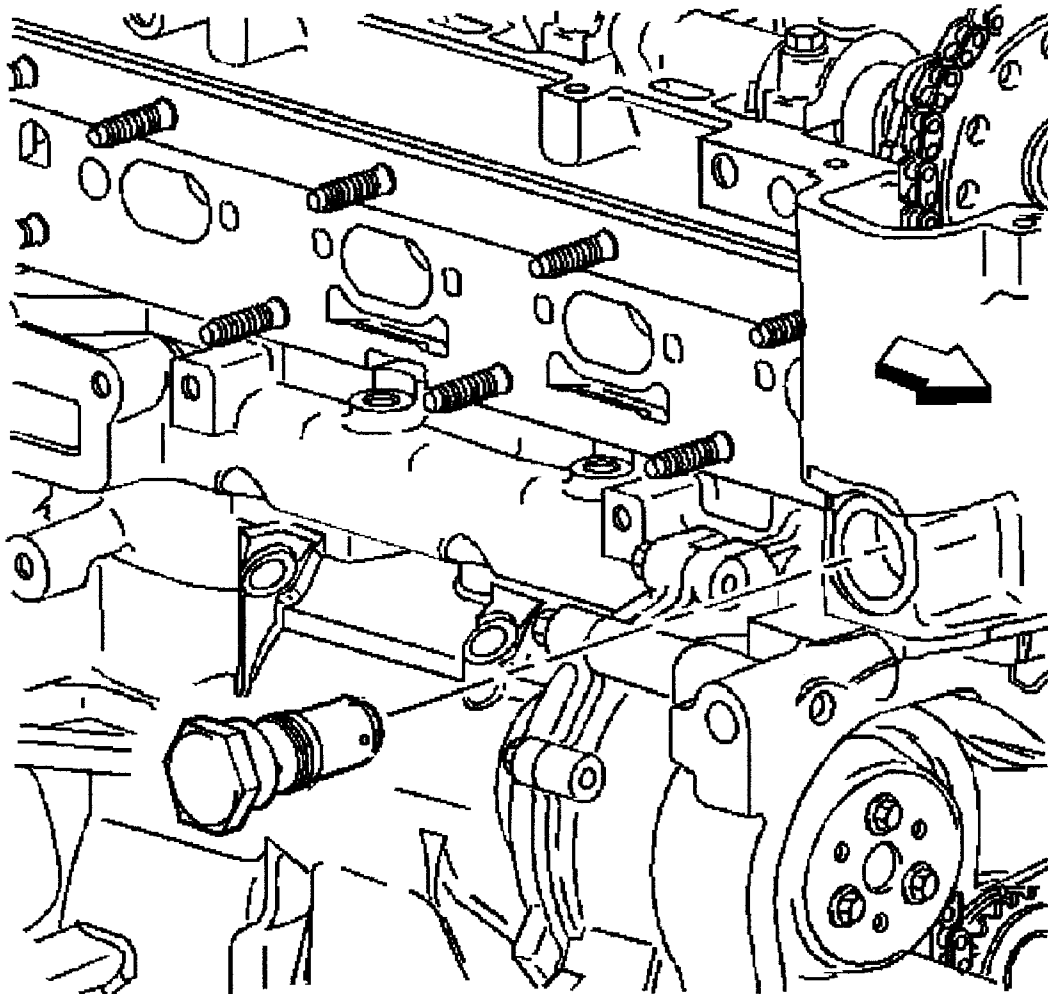
**Fig. 2: Intake Cam Sprocket**

8. Ensure that the EXH triangle on the exhaust camshaft sprocket is aligned with the matching colored link (3 in Fig. 3 ).



**Fig. 3: Exhaust Cam Sprocket**

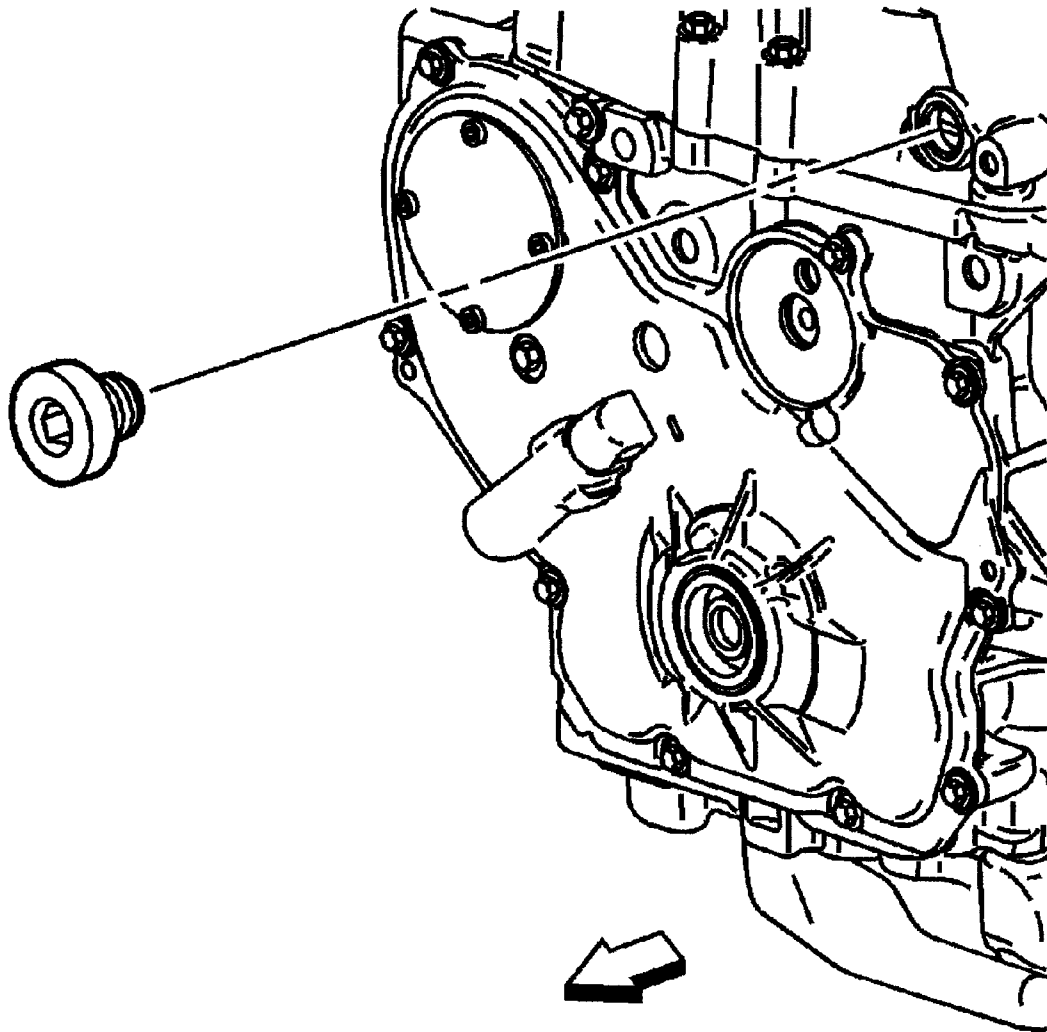
9. Remove the timing chain tensioner.



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**Fig. 4: Timing Chain Tensioner**

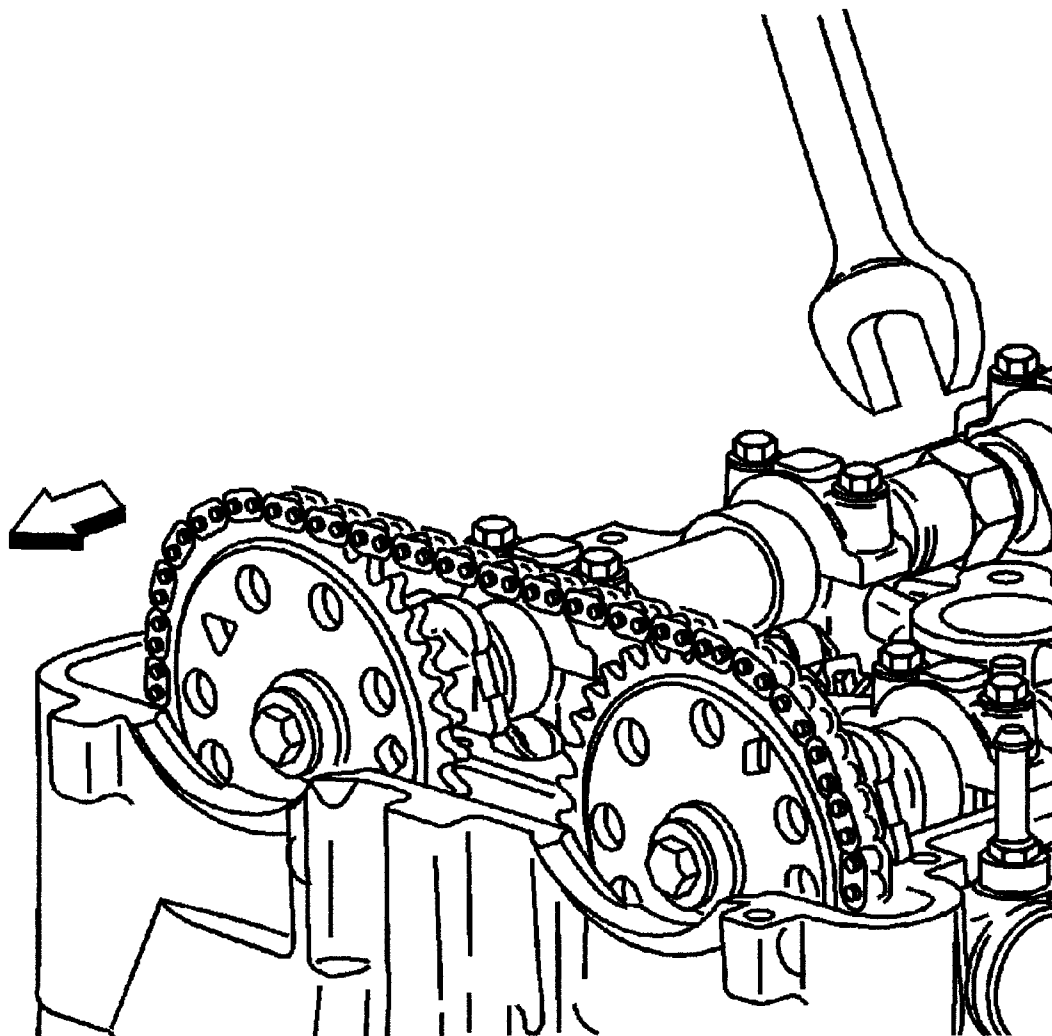
10. Remove the fixed timing chain guide access plug.



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**Fig. 5: Timing Chain Guide Access Plug**

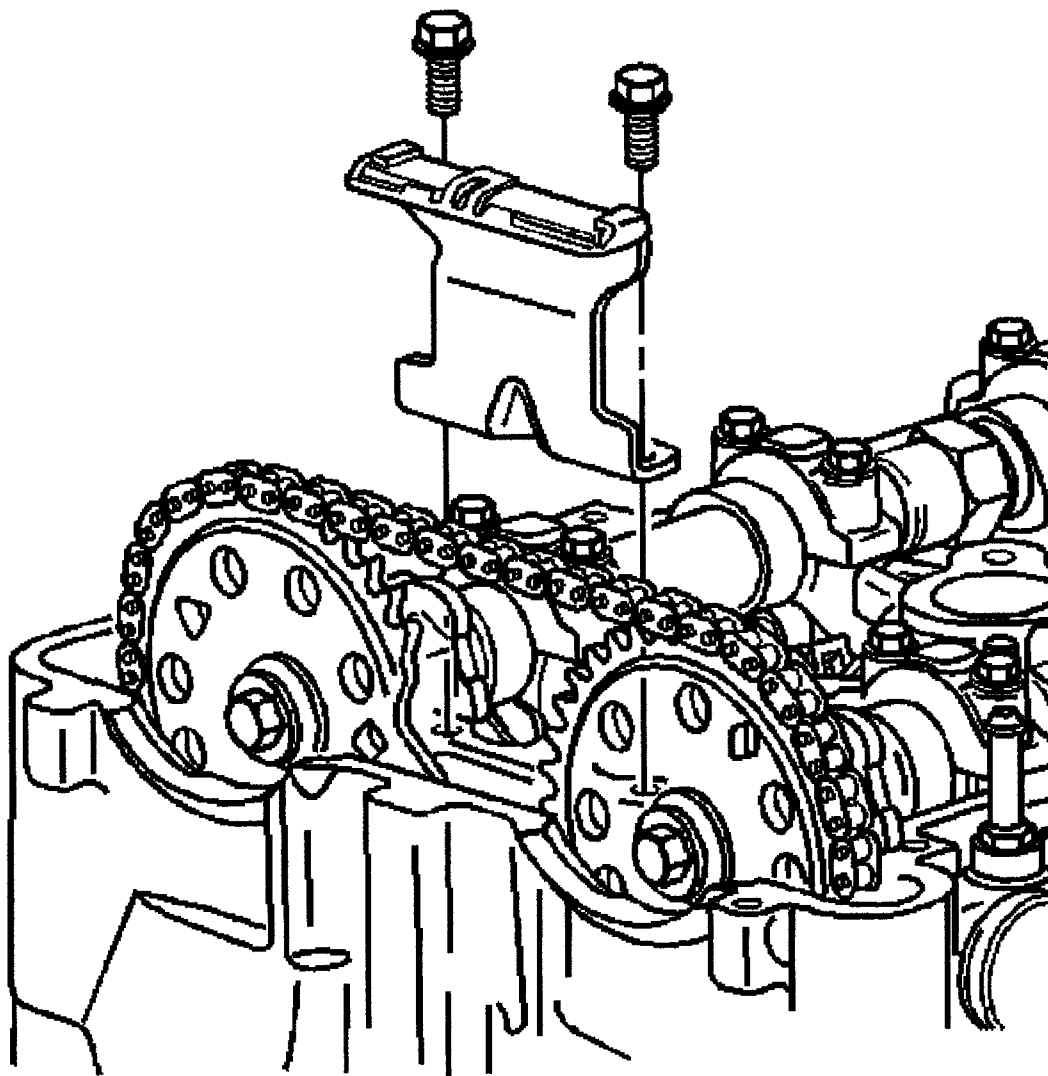
11. Remove the fixed timing chain guide.



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**Fig. 8: Camshaft Anchor**

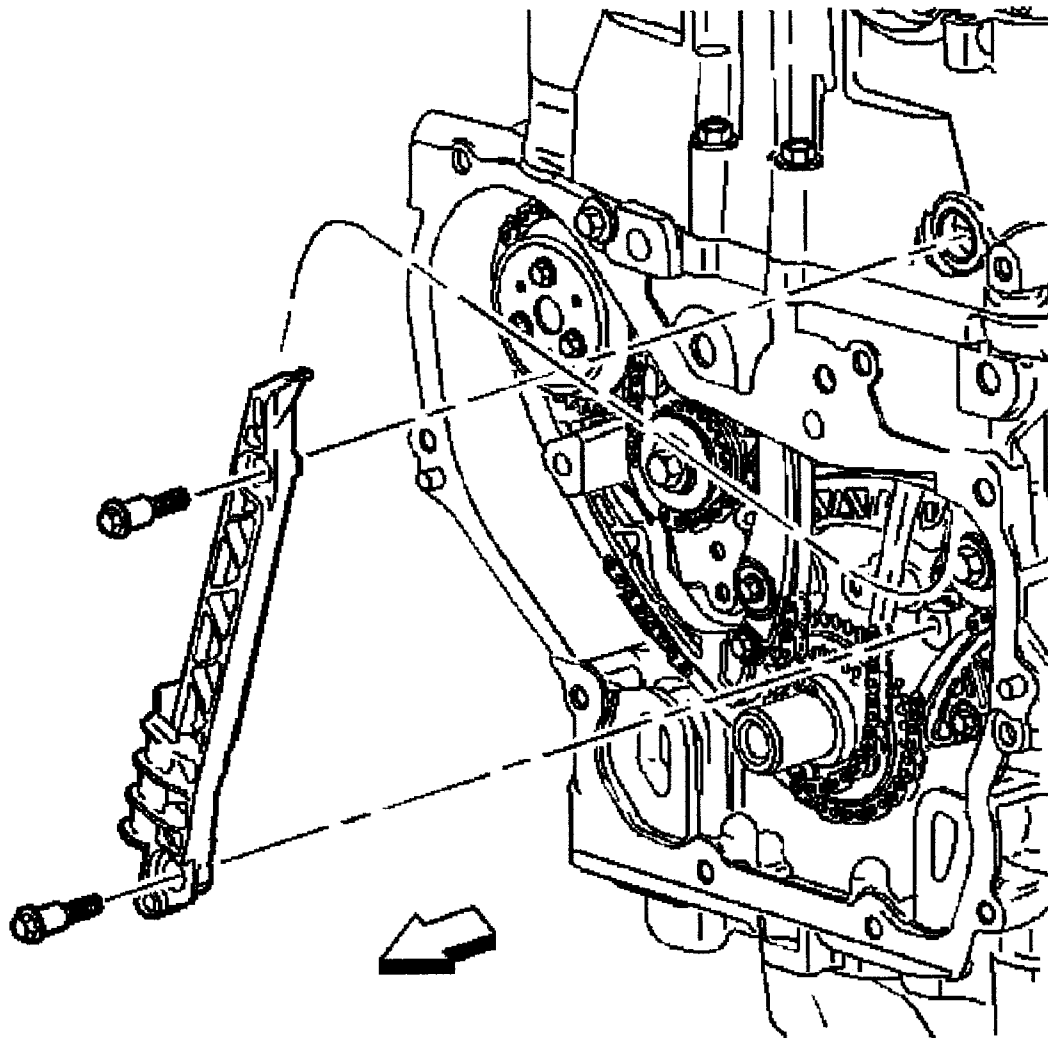
14. Remove the exhaust camshaft sprocket bolt and discard.



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**Fig. 7: Upper Timing Chain Guide**

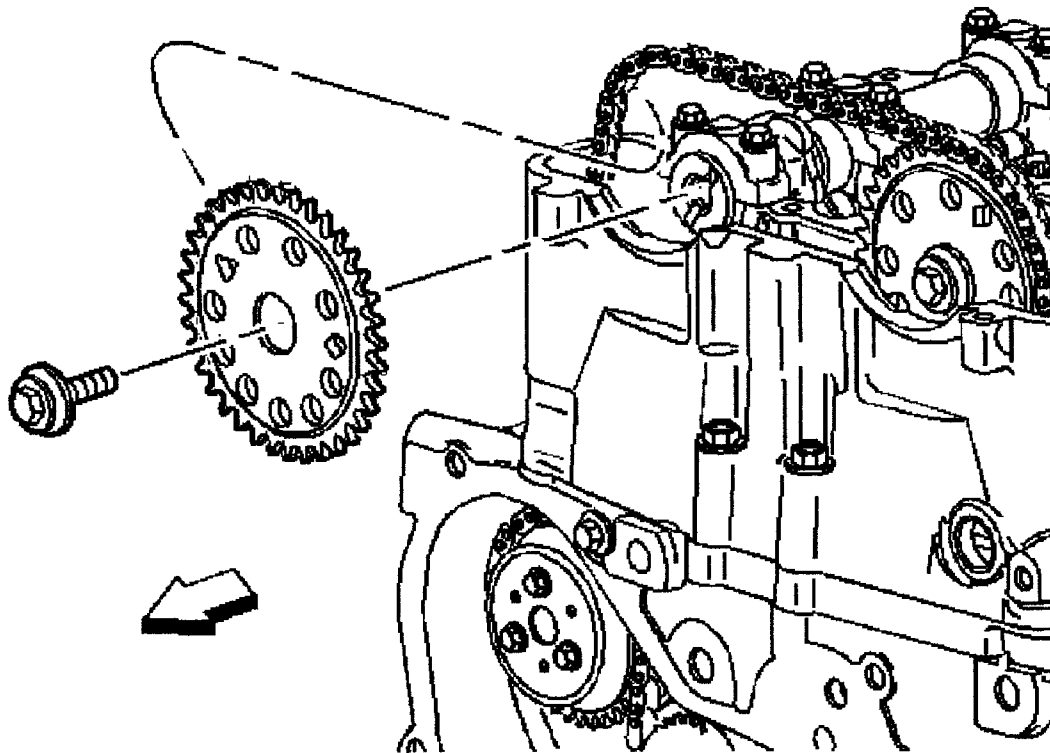
13. Use a 24 mm wrench to hold the camshaft from turning.



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**Fig. 6: Fixed Timing Chain Guide**

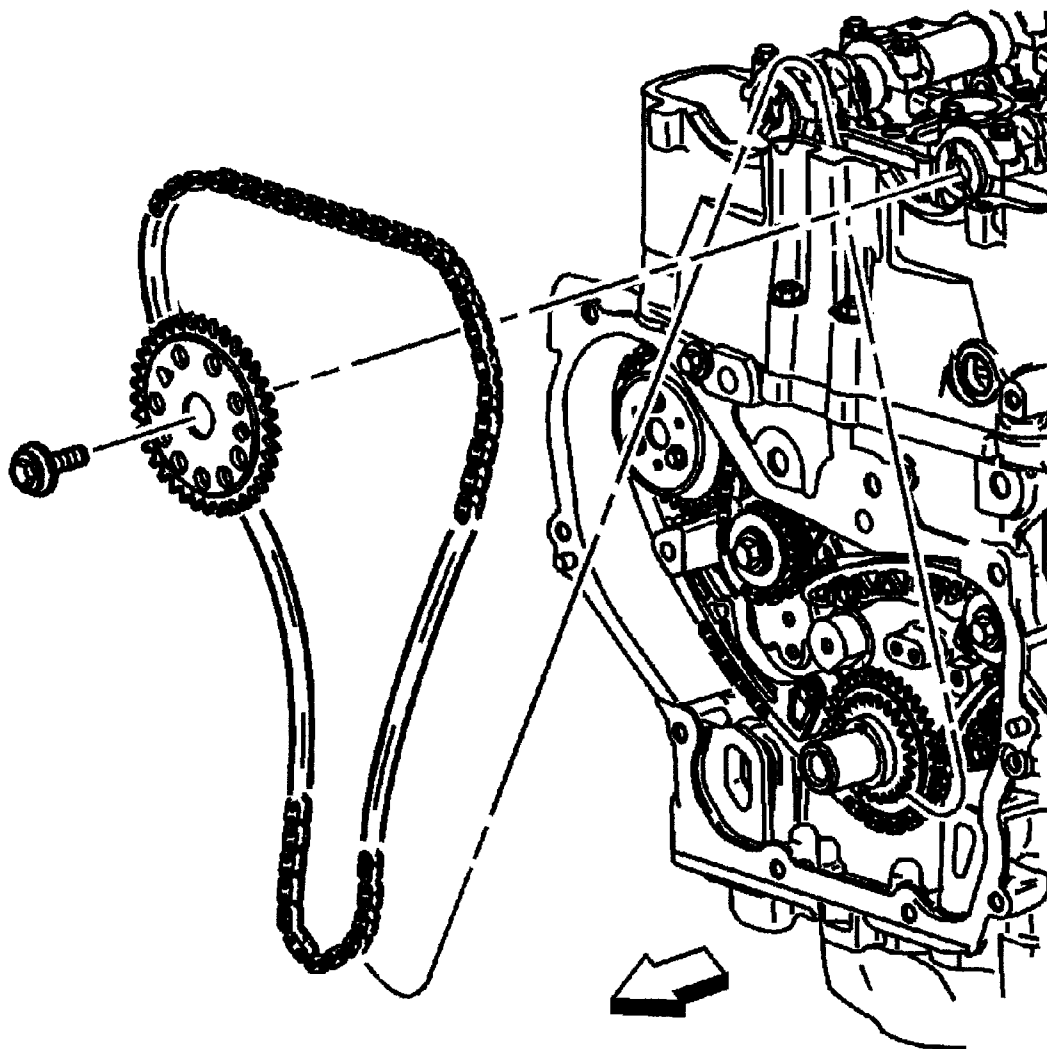
12. Remove the upper timing chain guide.



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**Fig. 9: Exhaust Camshaft Sprocket**

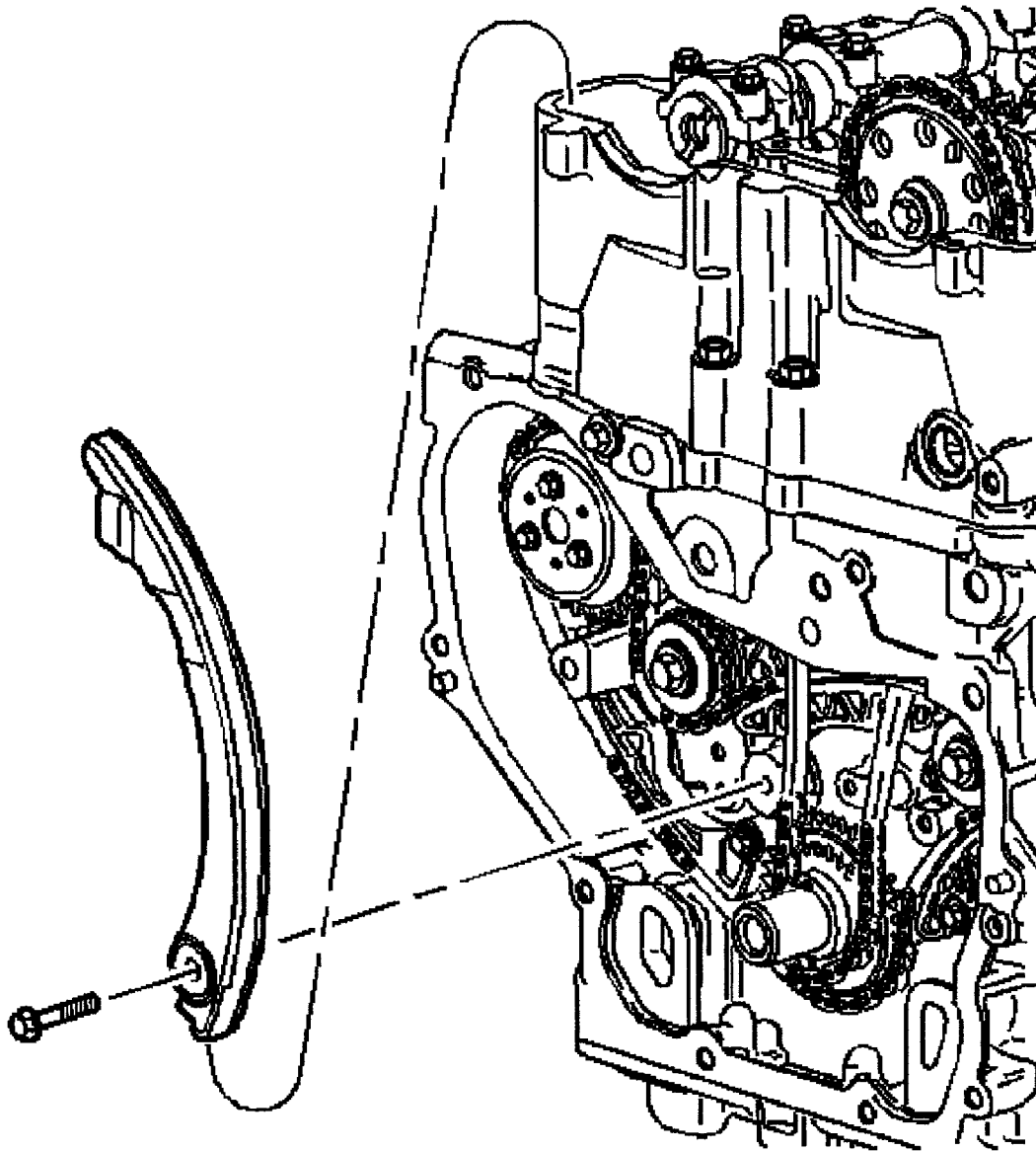
15. Remove the exhaust camshaft sprocket.
16. Remove the timing chain tensioner guide.



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**Fig. 11: Intake Camshaft Sprocket**

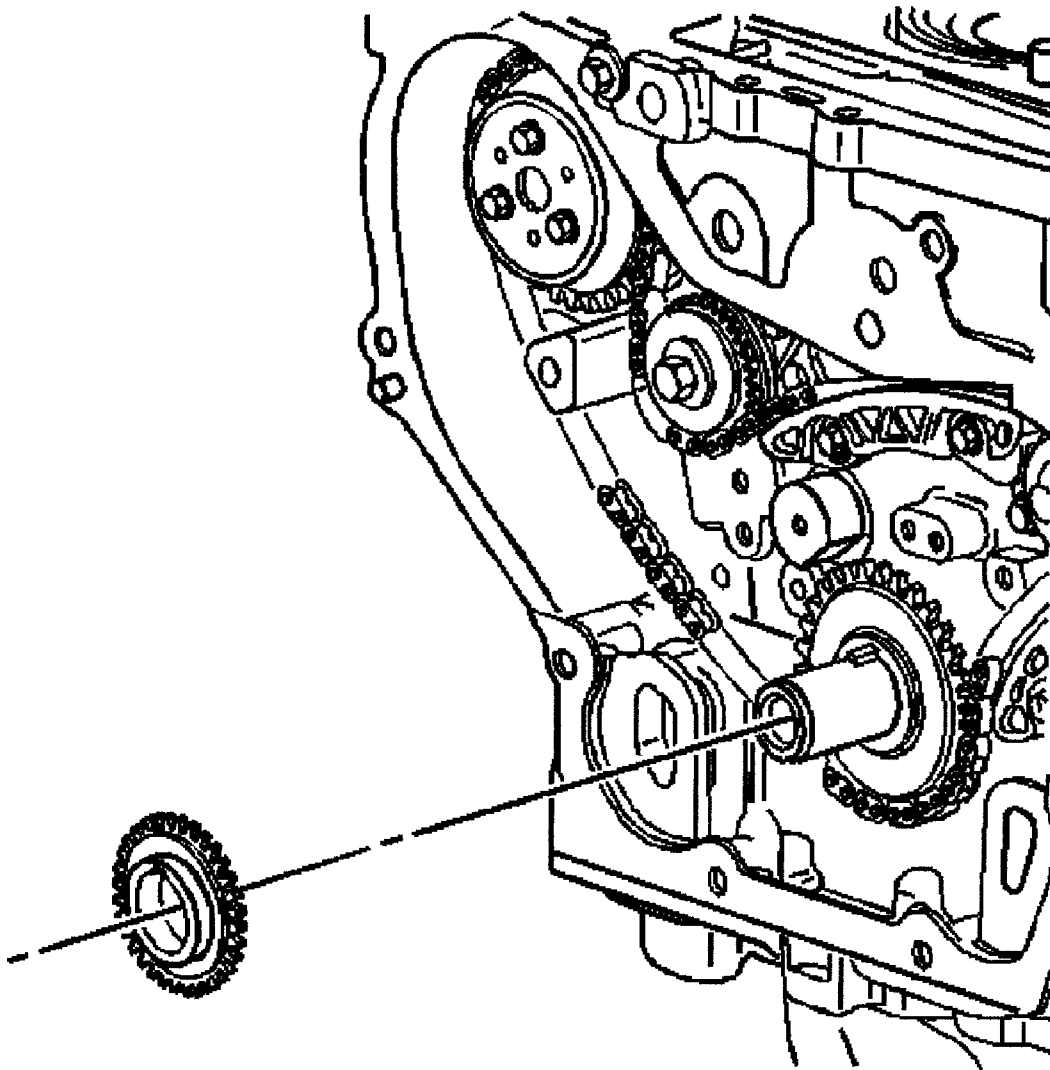
18. Remove the intake camshaft sprocket.
19. Remove the timing chain through the top of the cylinder head.
20. Remove the crankshaft sprocket.



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**Fig. 10: Timing Chain Tensioner Guide**

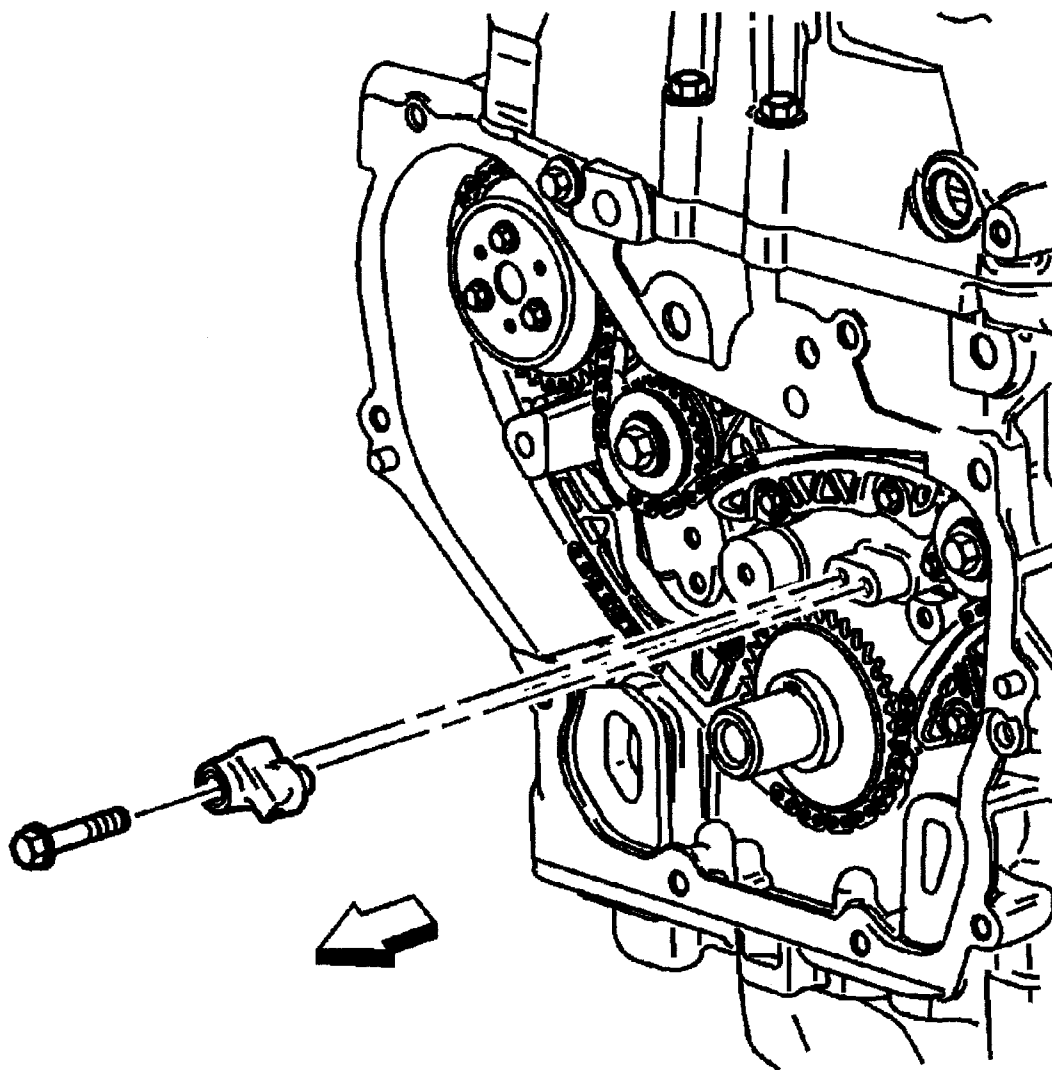
17. Remove the intake camshaft sprocket bolt and discard.



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**Fig. 12: Crankshaft Sprocket**

21. Remove the oil nozzle and bolt.

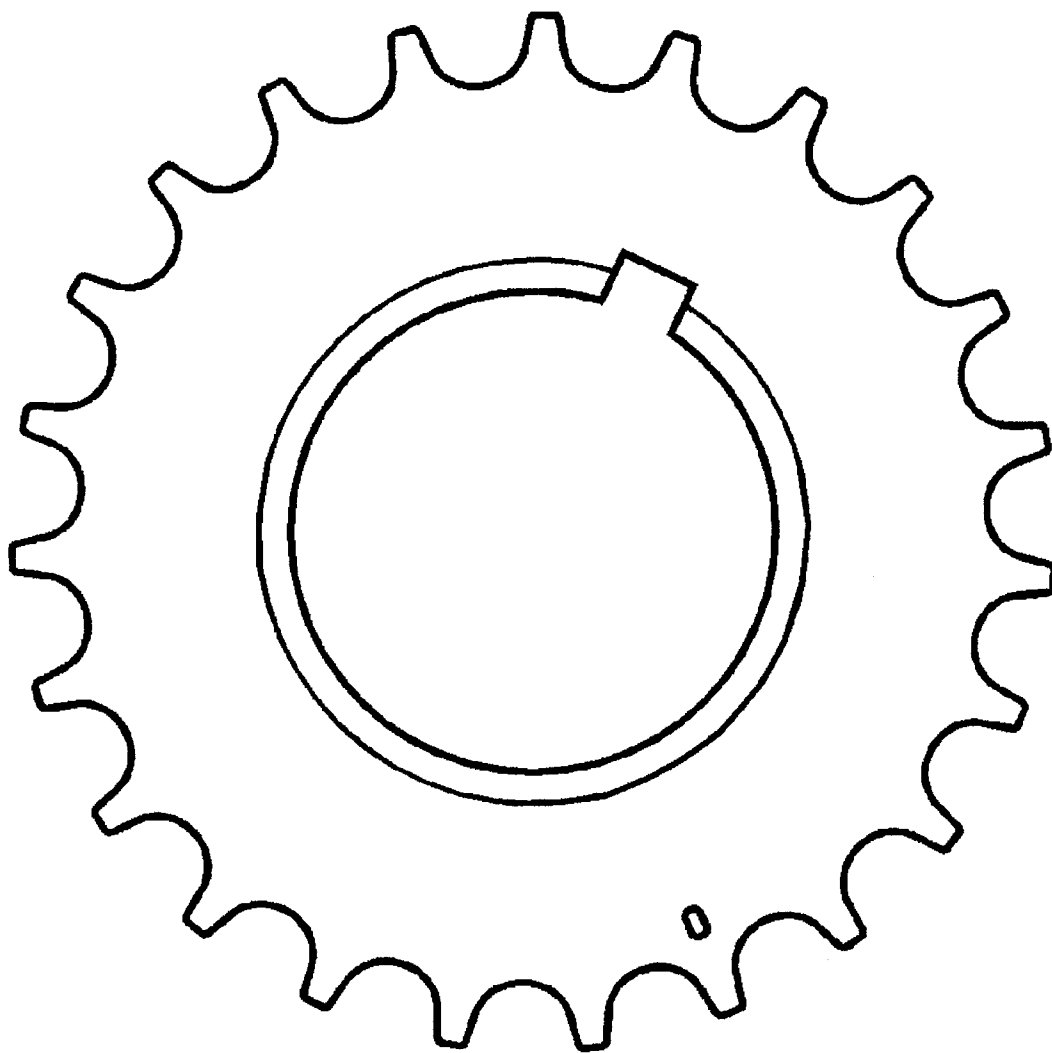


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**Fig. 13: Oil Nozzle**

#### INSTALLATION PROCEDURE

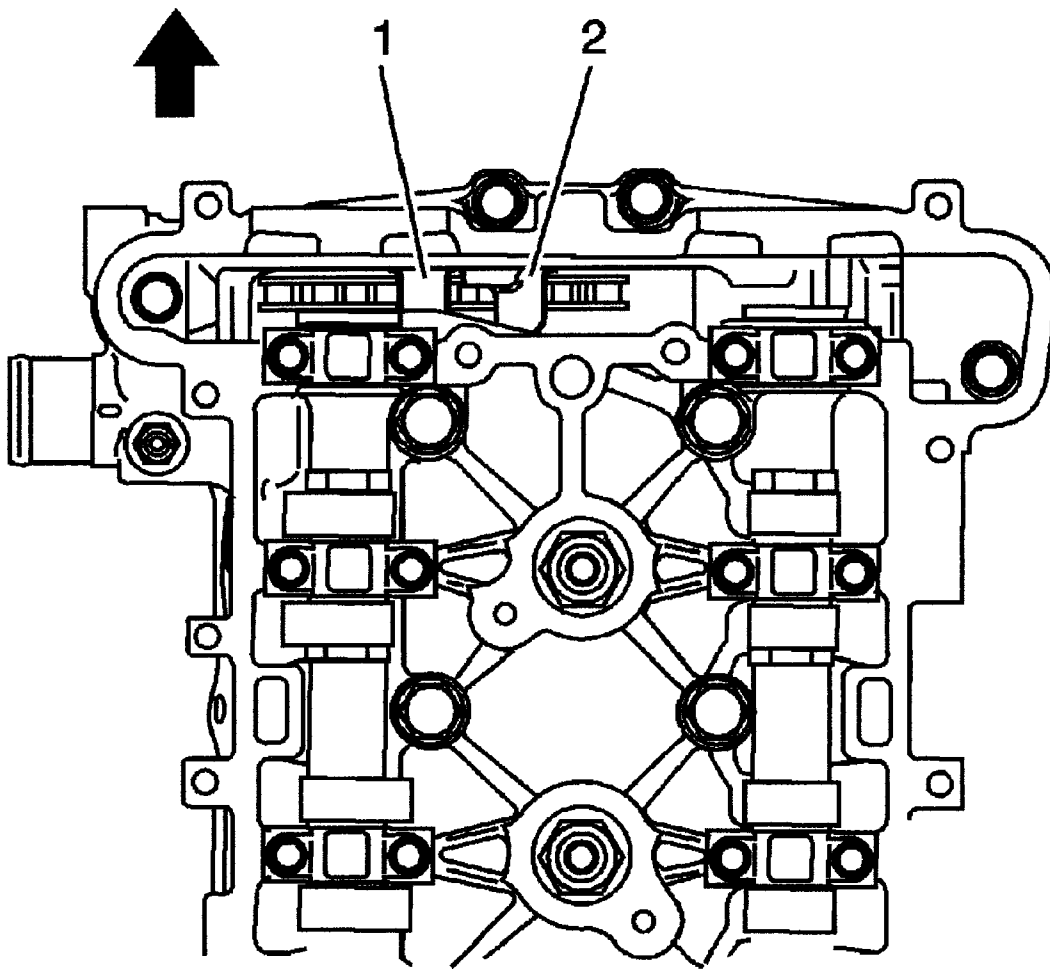
1. Install the oil nozzle and bolt. Tighten the Timing Chain Oil Nozzle Bolt to 10 N.m (89 in-lbs). **Fig. 13**
2. Install the crankshaft sprocket with timing mark at the 5 o'clock position.



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**Fig. 14: Crankshaft Sprocket Timing Mark**

3. Lower the timing chain through the opening in the top of the cylinder head. Carefully ensure that the chain goes around both sides of the cylinder block bosses (1, 2 in **Fig. 15** ).



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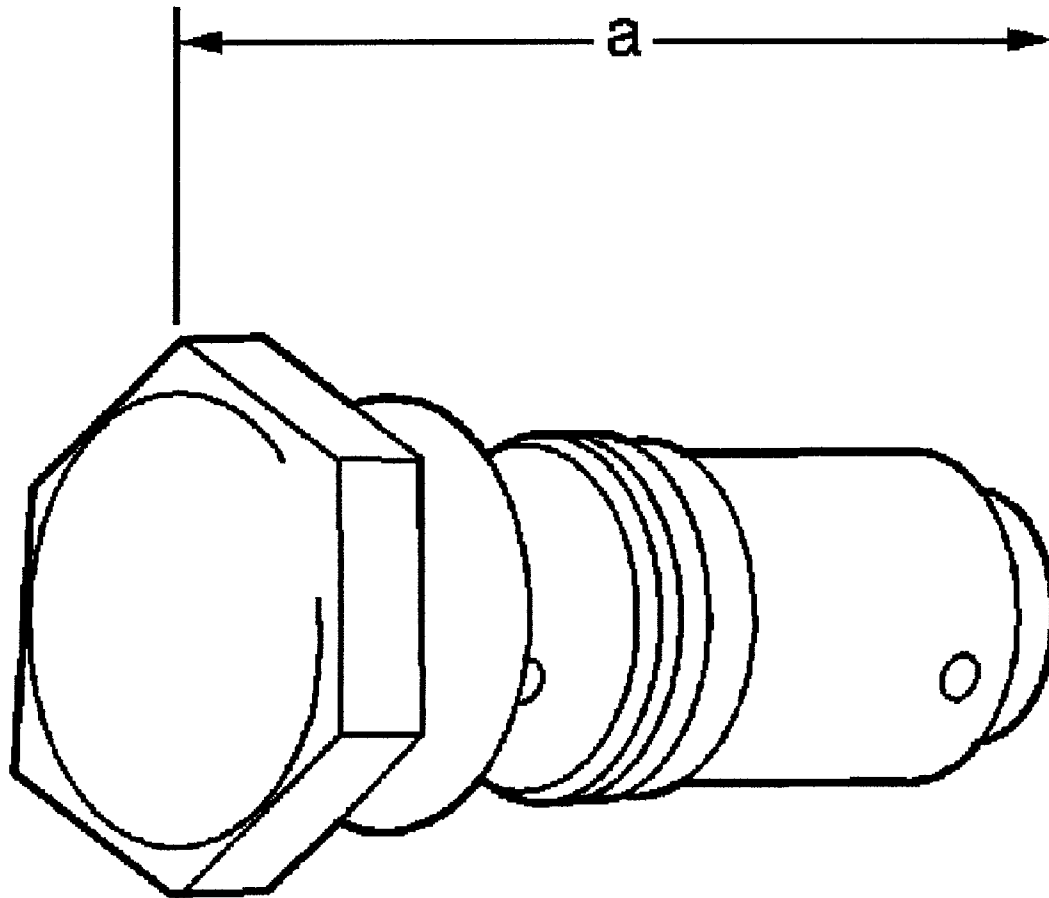
**Fig. 15: Cylinder Head**

4. Install the intake camshaft sprocket with the INT diamond at the 2 o'clock position. **Fig. 2**
5. Hand tighten a NEW intake camshaft sprocket bolt. Refer to the appropriate model year and model Saturn Parts and Illustration catalog for the correct part number of the new intake camshaft sprocket bolt.
6. Route the timing chain around the crankshaft sprocket with the matching colored link aligning with the timing mark.
7. Route the timing chain around the intake camshaft sprocket with the uniquely colored link (1 in **Fig. 2**) aligning with the INT diamond.
8. Install the timing chain tensioner guide through the opening in the top of the cylinder head. (**Fig. 10**). Tighten the timing chain tensioner guide bolt to 10 N.m (89 lb in).
9. Install the exhaust camshaft sprocket with the timing chain matching colored link (3 in **Fig. 3**) at EXH triangle aligned at the 10 o'clock position.

10. Use a 24 mm wrench to rotate the camshaft slightly, until exhaust sprocket aligns with the camshaft. **Fig. 8**

**IMPORTANT: Always install NEW sprocket bolts.**

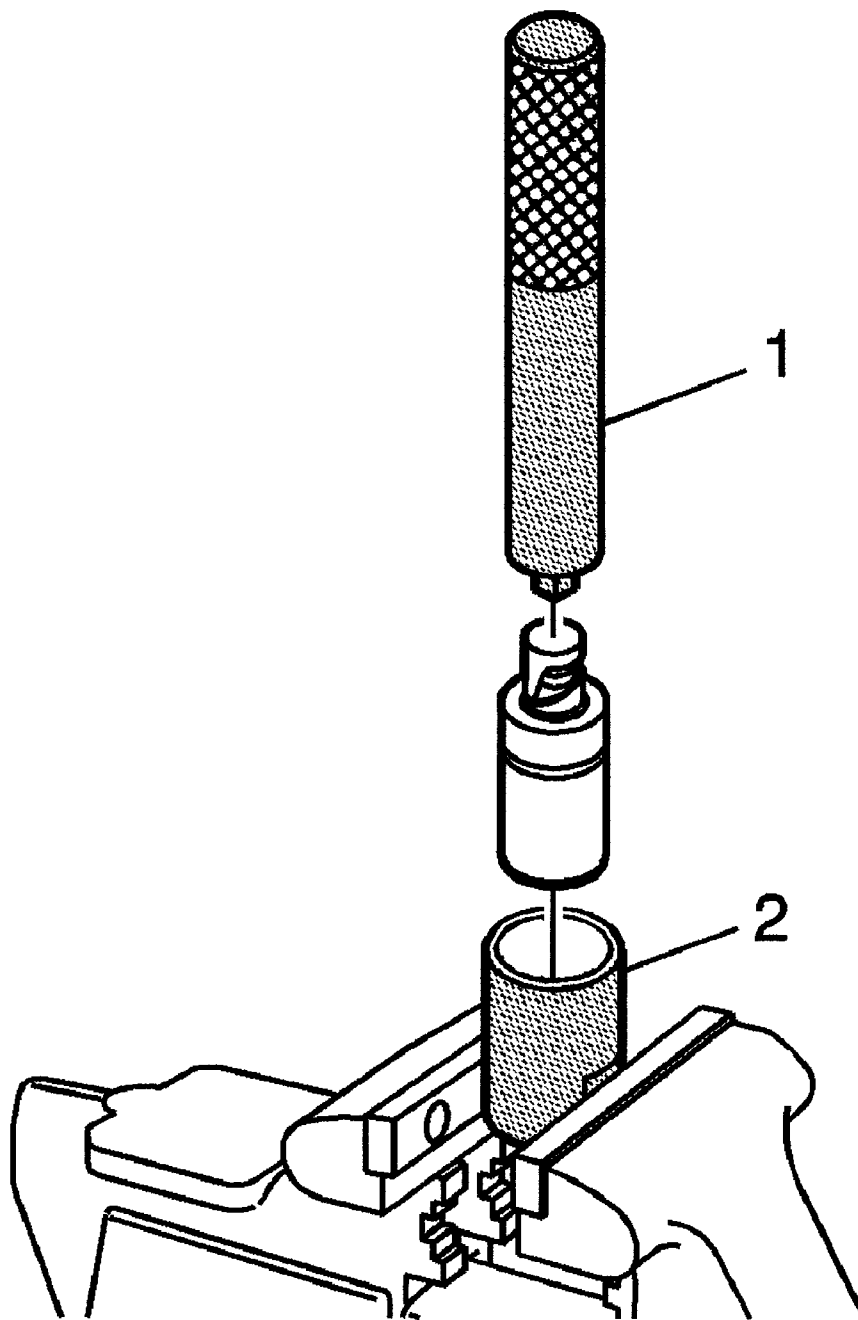
11. Hand tighten the NEW exhaust camshaft sprocket bolt. Refer to the appropriate model year and model Saturn Parts and Illustration catalog for the correct part number of the new exhaust camshaft sprocket bolt.
12. Install the fixed timing chain guide. (**Fig. 6** ). Tighten the fixed timing chain bolts to 10 N.m (89 lb in).
13. Apply sealant, Saturn P/N 21485277 (in Canada, 10953489) compound to thread and install the timing chain guide bolt access hole plug. Tighten the chain guide plug to 40 N.m (30 lb ft). **Fig. 5**
14. Install the timing chain upper guide (**Fig. 7** ). Tighten the timing chain upper guide bolts to 10 N.m (89 lb in).
15. Inspect the timing chain tensioner. If the timing chain tensioner, O-ring seal, or washer is damaged, replace the timing chain tensioner.
16. Measure the timing chain tensioner assembly from end to end. A new tensioner should be supplied in the fully compressed non-active state. A tensioner in the compressed state will measure 72 mm (2.83 in) from end to end (refer to illustration [a in **Fig. 16** ]). A tensioner in the active state will measure 85 mm (3.35 in) from end to end (refer to illustration [a]).



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**Fig. 16: Timing Chain Tensioner Assembly**

17. If the timing chain tensioner is not in the compressed state, perform the following steps:
  - A. Remove the piston assembly from the body of the timing chain tensioner by pulling it out.
  - B. Install the J 45027-2 (2 in **Fig. 17** ) into a vise.
  - C. Install the notch end of the piston assembly into the J 45027-2 (2 in **Fig. 17** ).
  - D. Using the J 45027-1 (1 in **Fig. 17** ), turn the ratchet cylinder into the piston.

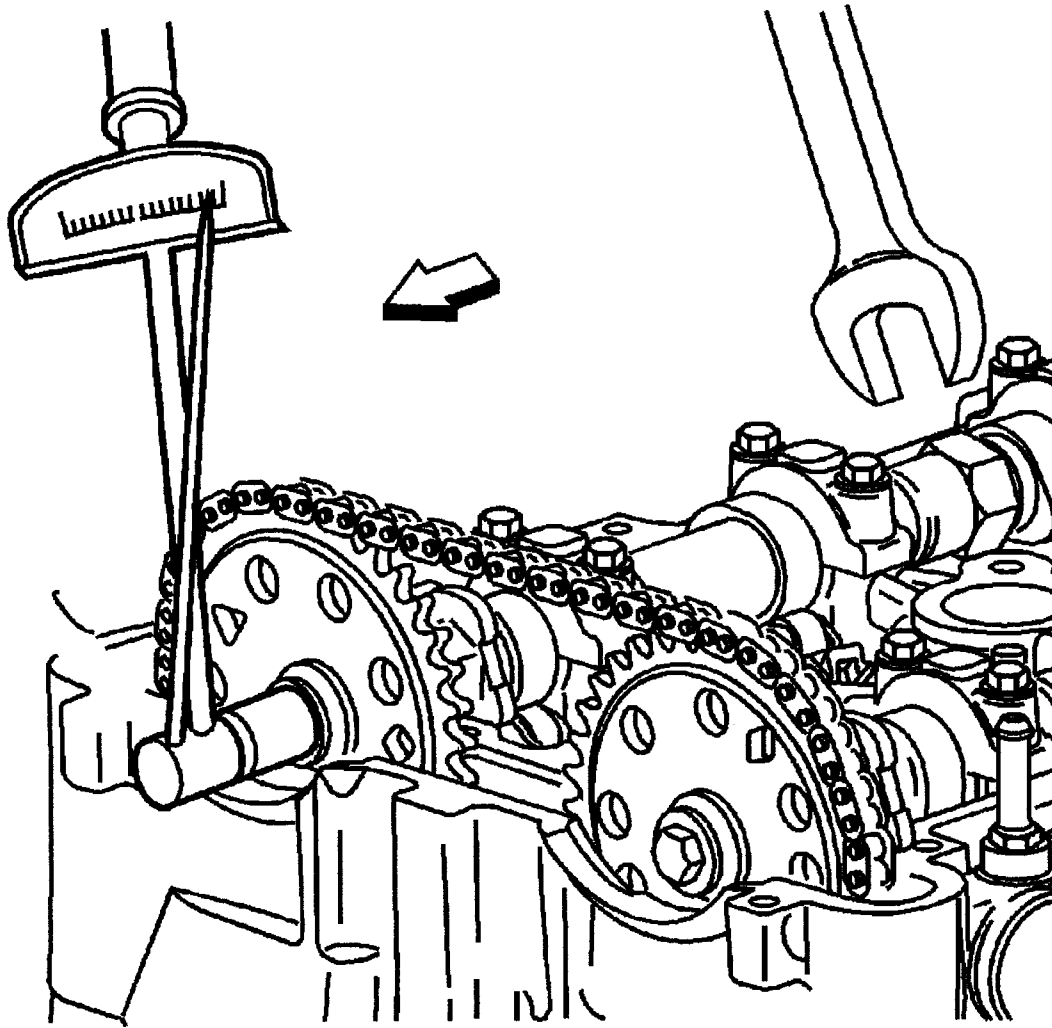


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**Fig. 17: Chain Tensioner Tools**

18. Inspect the bore of the tensioner body for dirt, debris, and damage. If any damage appears, replace the tensioner. Clean dirt or debris out with a lint free cloth.

19. Install the compressed piston assembly back into the timing chain tensioner body until it stops at the bottom of the bore. Do not compress the piston assembly against the bottom of the bore. If the piston assembly is compressed against the bottom of the bore, it will activate the tensioner, which will then need to be reset again.
20. At this point, the tensioner should measure approximately 72 mm (2.83 in) from end to end (refer to illustration [a in **Fig. 16** ]). If the tensioner does not read 72 mm (2.83 in) from end to end (refer to illustration **Fig. 16** , [a]), repeat steps 17.A through 17.D.
21. Install the timing chain tensioner **Fig. 4** . Tighten the timing chain tensioner to 75 N.m (55 lb ft).
22. Use a suitable tool with a rubber tip on the end. Feed the tool down through the camshaft drive chain to rest on the timing chain. Then give a sharp jolt diagonally downwards to release the tensioner.
23. Use a 24 mm wrench to hold the camshaft. Tighten the NEW camshaft bolts to 85 N.m (63 lb ft) plus 30 degrees.



G00376422

**Fig. 18: Tightening Camshaft**

24. Install the camshaft cover. Refer to Camshaft Cover Replacement in the appropriate model and model year Engine Service Manual.
25. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in the General Information section of the appropriate model and model year Service Manual.
26. Install the engine front cover. Refer to Engine Front Cover Replacement in the appropriate model and model year Engine Service Manual.
27. Lower the vehicle.
28. Connect negative battery cable. Refer to Battery Negative Cable Disconnect/Connect in the appropriate model and model year Engine Service Manual.

THE ATTACHMENTS TO THIS  
DOCUMENT HAVE BEEN REMOVED  
TO PROTECT UNWARRANTED  
INVASION OF PERSONAL PRIVACY  
PURSUANT TO EXEMPTION 6 OF  
THE FREEDOM OF INFORMATION  
ACT (FOIA), 5 U.S.C. 552(b)(6).