

## Yokes



### Bent Yoke

- Excessive torque
- Improper application
- Improper u-joint removal

## GENUINE SPICER® COMPONENTS

Spicer® service parts are the same quality used by the major OE's to assemble new trucks. Each component is engineered to work together to offer quality and reliability. Specify Genuine Spicer parts for all of your driveshaft repairs.

For detailed servicing instructions, refer to Spicer Driveshaft Service Manual No. 3264-\* or 3264-SPL for Spicer Life™ components.

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# FAILURE ANALYSIS GUIDE

## Driveshaft Components



### HOW TO INSPECT DRIVESHAFTS & IDENTIFY FAILED COMPONENTS

**SPICER**  
DRIVETRAIN COMPONENTS  
DANA

### Preventive Maintenance

Driveshaft inspection should be performed as part of a regular maintenance routine. Normal vehicle maintenance and recognition of component discrepancies is necessary to prevent serious mechanical problems as well as driver discomfort. Failure to perform normal maintenance may also void the vehicle warranty.

### Routine Inspection Steps

1. Check the output and input end yokes for looseness.
2. Check for excessive radial looseness of output/input shaft.
3. Check for looseness across ends of u-joint.
4. Check the slip spline for excessive radial movement.
5. Check the shaft for damage, bent tubing or missing balance weights.
6. Check for loose or missing plug.

### Failure Analysis

Component failures can result from improper maintenance, installation or assembly procedures. This quick reference guide assists service technicians in recognizing component failures and identifying probable causes.



## DANGER



**Rotating shafts can be dangerous.  
You can snag clothes, skin, hair, hands, etc.  
This can cause serious injury or death.  
Do not go under the vehicle when the  
engine is running.**

## HOW TO IDENTIFY FAILURE AND PROBABLE CAUSE

### Universal Joints



### Burned U-Joint Cross

- Lack of lubrication (improper maintenance)
- Wrong lubrication type
- Improper application

### Universal Joints



### Fractured U-Joint

- Excessive torque loads
- Shock loads
- Improper application

# HOW TO IDENTIFY FAILURE AND PROBABLE CAUSE

## Universal Joints



**End Galling**

- Excessive u-joint operating angles
- Improper assembly procedures
- Sprung or bent yoke
- Lack of lubrication (improper maintenance)

## Universal Joints



**Brinelling**

- Excessive continuous torque loads
- Seized slip yoke splines
- Excessive driveline angles
- Sprung or bent yoke
- Over tightened "U" Bolts

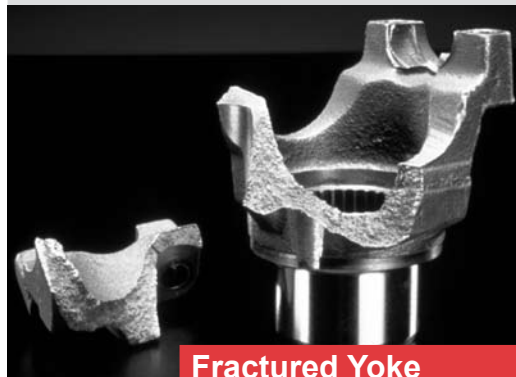
## Universal Joints



**Spalling**

- Water contamination
- Improper lube type
- Lubrication failure

## Yokes



**Fractured Yoke**

- Excessive torque loads
- Shock loads
- Improper application
- U-joint kit failure

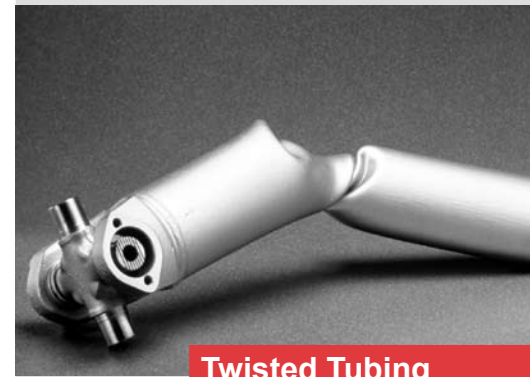
## Yokes



**Broken Tang Half Round**

- Improper bearing retainer bolt torque
- Improper installation
- Strap was re-used instead of replaced

## Tubing



**Twisted Tubing**

- Excessive torque
- Driving into immovable object under power
- Spinning tires that suddenly grab hold

## Tubing



**Broken Weld**

- Shock loads
- Improper welding procedures
- Excessive vibration

## Tube Shafts



**Fractured Spline**

- Excessive torque loads
- Shock loads
- Improper application