

# Compressor Troubleshooting Guide

## To Bench Test Compressor Suction and Discharge Pressures.

1. Grasp clutch hub and rotate compressor by hand. At the same time plug discharge port only with thumb or palm of hand. The compressor should begin to build discharge pressure while rotating.

2. Plug suction port and repeat the above step to confirm presence of suction pressure.

**Note:** Absence of suction and/or discharge pressure.

## Clutch Specifications

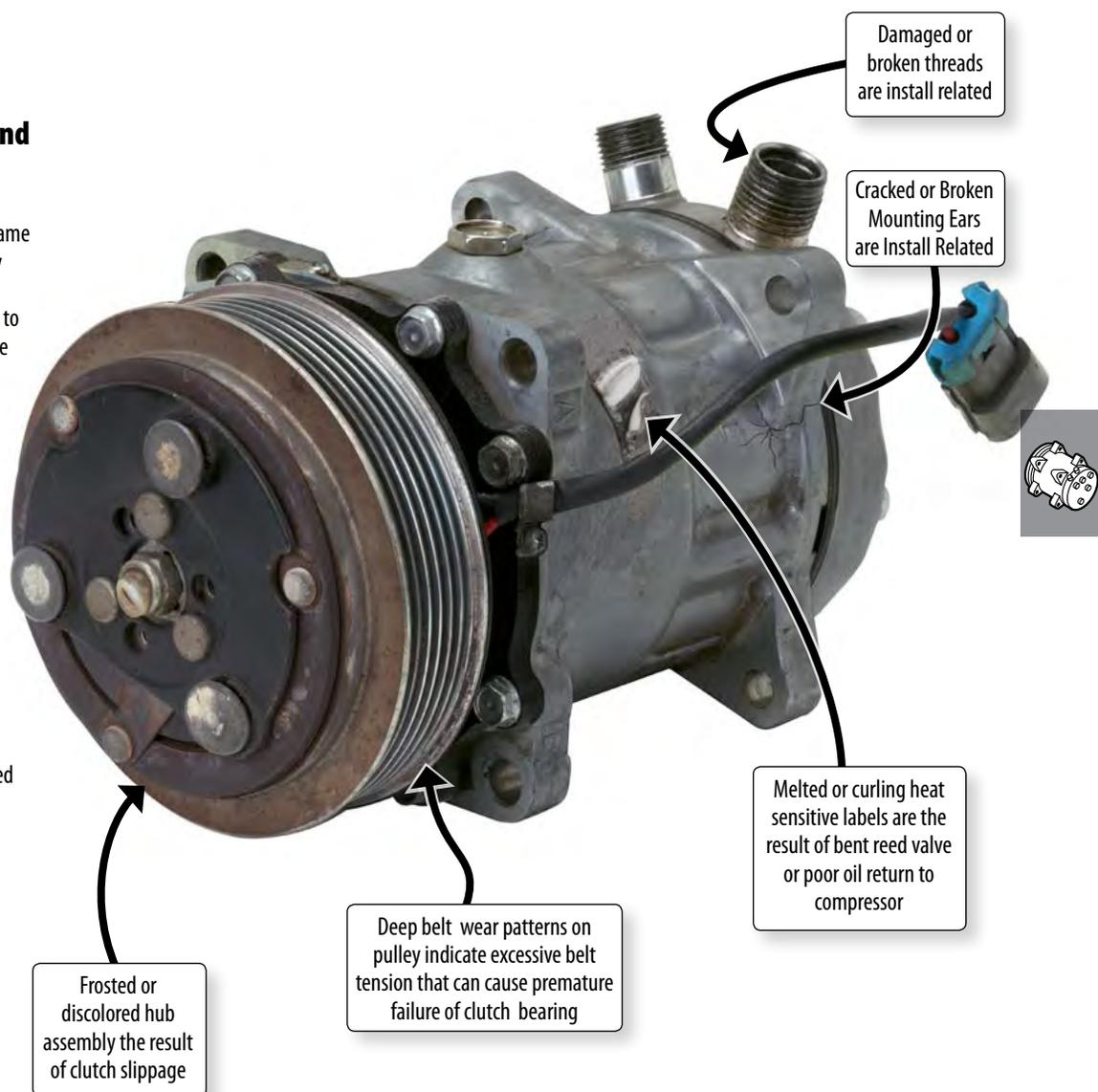
12 Volt clutch

Amperage draw 2.5 to 3 amps

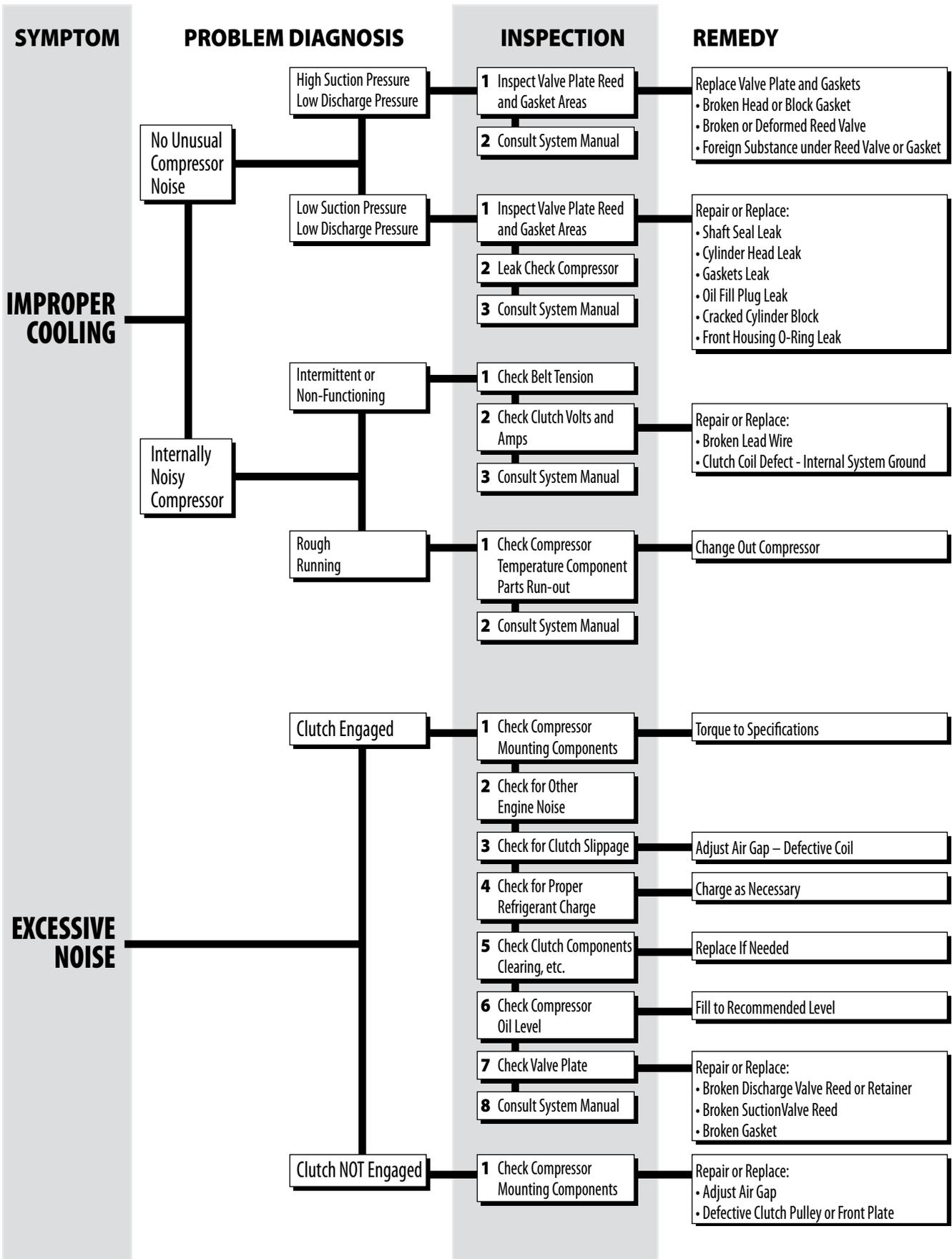
Pull - in voltage 6 - 7 VDC

Working voltage 10.5 VDC

**Note:** less than 10.5 volts supplied to clutch coil during compressor operation will result in clutch slippage and eventual failure.



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## WHAT TO LOOK FOR &amp; HOW IT LOOKS

In a properly maintained air conditioning system, defects in materials or workmanship will typically surface shortly after the system has been put into service. Refer to oil table shown below for oil color and system condition.

Things to check before accepting	Explanation
<b>1</b> Mounting Ears	Fractured or broken compressor mount ears are install related, non-warrantable condition.
<b>2</b> Heat Sensitive Labels	Overheat condition : Melted labels due to lack of oil return or bent reed valves due to liquid slugging, non-warrantable condition.
<b>3</b> Compressor Rotation	Check compressor rotation for intermittent catches or seized condition.
<b>4</b> Oil Level	Remove oil plug, there should be ½ to 1 ounce of oil left in compressor to perform oil inspection.
<b>5</b> Oil Color and Condition	See oil color table shown below for compressor acceptance criteria.
<b>6</b> Internal Center Ball Condition (Sanden Only) view through drain plug hole	Normal: Should be chrome color with no signs of dis-coloration from heat or gauling. Discolored center ball is generally the result of poor oil return to the compressor.
<b>7</b> Clutch Hub (non-seized compressor only)	Should be no signs of frosting or discoloration from clutch slippage. Clutch slippage is the result of insufficient voltage, poor compressor ground, liquid slugging or rapid cycling, all are non-warrantable conditions.
<b>8</b> No Suction or Discharge Pressure	Caused by bent or broken reed valves; non-warrantable..
<b>9</b> Clutch "V" groove area	Deep belt wear patterns indicate excessive belt tension that can cause premature failure of clutch bearing.
<b>10</b> Clutch Bearing	Rotation should be smooth with no rough spots.
<b>11</b> Clutch pulley	Check for run-out should rotate truly with no visible wobble.
<b>12</b> Suction/Discharge Port	Damaged or broken threads are install related.

Return Status	Oil Color	System Condition
Warrantable	<b>Clear</b>	Normal
Warrantable	<b>Clear Green</b>	Leak detection dye is present in oil
Warrantable	<b>Yellow</b>	Moisture may be present in A/C system
Warrantable	<b>Grey</b>	Normal failure, wear material from failed component suspended in compressor oil.
Non-Warrantable Condition	<b>Amber</b>	System contaminated and acidic. Contains copper ions from coils in evaporator and condenser.
Non-Warrantable Condition	<b>Black</b>	System contaminated, oil has turned black due to presence of carbon sediment caused by severely acidic system.

## WARRANTABLE



## NON-WARRANTABLE

