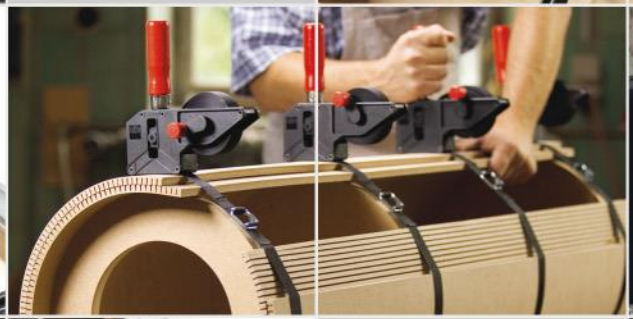
BESSEY® Product Training

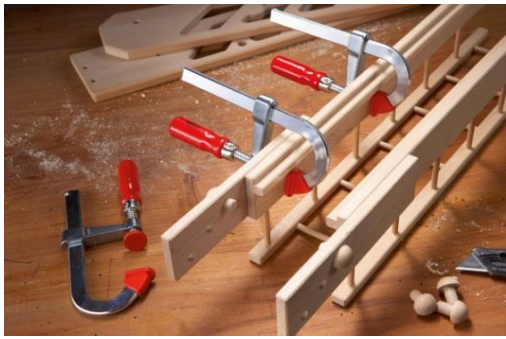


BESSEY® Tools North America
Metalworking: SC, BC and BCS Bearing Heaters

Metalworking: Bearing Heaters

Why should a bearing be heated?

- When pressing (driving) a cold bearing onto a shaft more often than not the shaft will be damaged. The bearing itself may also be damaged during this process.
- RESULT: a bearing that is misaligned.
- Alignment issues can reduce a bearing's lifespan by 50%.
- Expansion of the bearing due to heating allows for **precise** placement and alignment of the bearing on the shaft **without** risking damage. NOTE: Normally a differential of 150 degrees F between the bearing and shaft will allow enough expansion for safe mounting.



Metalworking: Bearing Heaters

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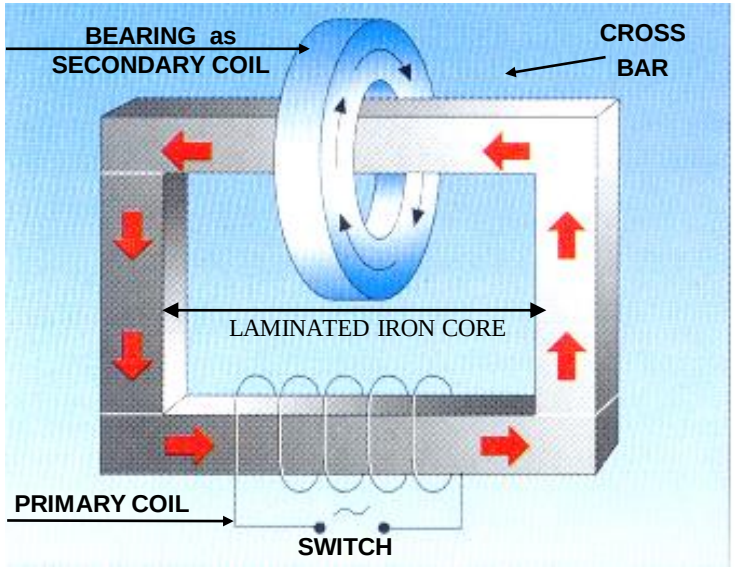
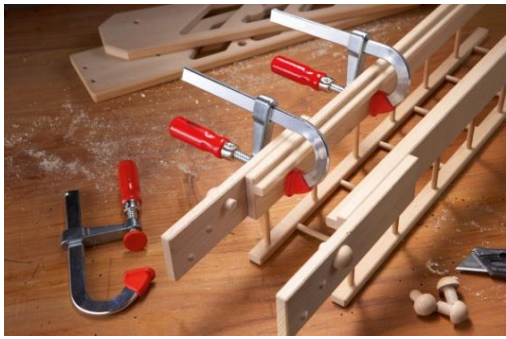
Heating by induction

- Electro-magnetic induction provides quick, even heating
- It is the superior method of heating a bearing.
- What is an “Induction Heater”?
- Basically a transformer with a short circuited secondary.
- In the base of the unit is a laminated steel core with a primary coil (winding). The laminated cross bar completes the core & the bearing becomes a short circuited, single turn, secondary coil.

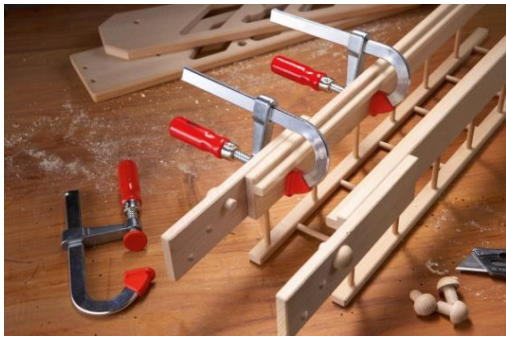




Metalworking: Bearing Heaters

Hot Mounting General Instructions

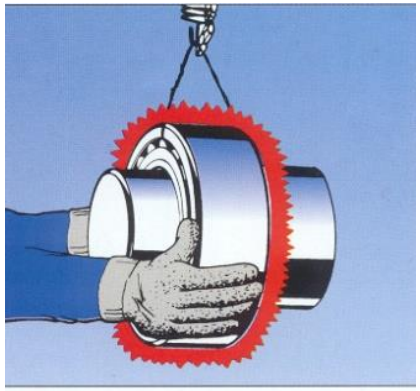
- How Hot?
- Always follow the manufacturer recommendations for the bearing.
- Normally, do not heat a bearing to a temperature above 250 deg. F
- Do not heat bearings with seals or shields above 210 deg. F
- **Overheating** a bearing can cause changes in the metallurgical properties of the bearing steel, resulting in **premature failure!**
- Heat levels should be monitored constantly - a good device for this is a pyrometer. For your convenience BESSEY carries one, (Model: Pyrometer Kit)

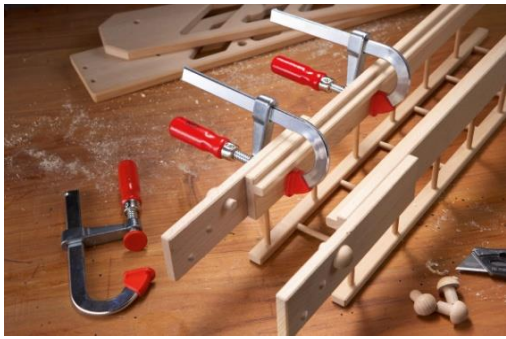


Metalworking: Bearing Heaters

Hot Mounting General Instructions

- Clean protective gloves should be worn when mounting a bearing
  - Protection for the installers hands against heat.
  - Clean to prevent contamination of the bearing with destructive grit.
- Hoisting equipment can be used to help mount large bearings.
- To give some idea as to heating time requirements:
  - OD of 2” and width of 0.5” = Approximately 1 minute
  - OD of 4” and width of 1.0” = Approximately 2 minute
  - OD of 6” and width of 1.5” = Approximately 4 minute
  - OD of 8” and width of 2.0” = Approximately 8 minute

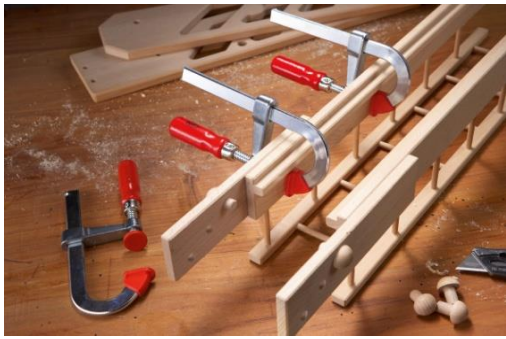




Metalworking: Bearing Heaters

Tips & Tricks

- Always use the largest cross bar that will fit through bearings hole.
- Bearings that are too large in diameter to be actually suspended from the cross bar can still be heated.
- Induction heating does not require direct contact. It is a heat generating process - not a heat transfer process.
- A large diameter bearing can sit on the base of the machine & the cross bar placed through the hole.
- Raising blocks are only required if the bearing race is thicker than the height of the posts, thus not allowing contact between the cross bar and both posts.
- Induction Bearing Heaters should not be placed on steel tables or carts. They should also be raised up about 18 inches from any heavily ‘rebarred’ concrete floor.
  - **WHY?** - Well because, the iron in the above mentioned items will “ soak up “ some of that heat inducing energy. Resulting in longer heating times.



Metalworking: Bearing Heaters

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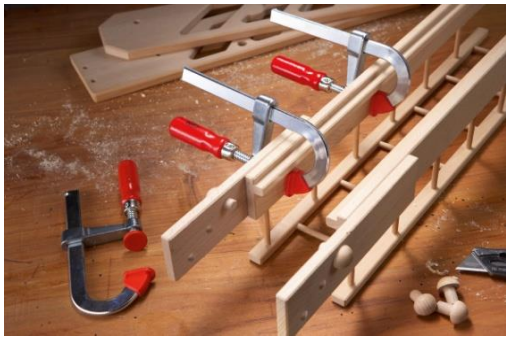
Models

- Model SC110D, Computer controlled, Single Phase
  - Bearing capacity: 4-3/8” x 11” OD, 14” OD with optional raising blocks
- Model SC110V, On/Off Switch , Single Phase
  - Bearing capacity: 4-3/8” x 11” OD, 14” OD with optional raising blocks
- Model BC , On/Off Switch , Single Phase
  - Bearing capacity: 8” x 22” OD, 32” OD with optional raising blocks
- Model BCS , On/Off Switch , Single Phase
  - Bearing capacity: 12-1/2” x 22” OD, 32” OD with optional raising blocks

Reco induction bearing heaters

BESSEY® Product #	Voltage	Standard Cross Bars	Optional Cross Bars	Approx. Weight	Case
	Volts(amps)	Inches	Inches	Pounds	qty.
SC 110D	110V(17 amp)	3/4, 2	1/2*, 1 1/4	56.00	1
SC 110V	110V(17 amp)	3/4, 2	1/2*, 1 1/4	52.00	1
SC 220V	220V(9 amp)	3/4, 2	1/2*, 1 1/4	52.00	1
BC 220V	220V(30 amp)	1 1/4, 3	3/4, 1, 2	200.00	1
BC 440V	440V(20 amp)	1 1/4, 3	3/4, 1, 2	200.00	1
BC 550V	550V(20 amp)	1 1/4, 3	3/4, 1, 2	200.00	1
BCS 220	220V(30 amp)	1 1/4, 3	1*, 2	235.00	1
BCS 440	440V(20 amp)	1 1/4, 3	1*, 2	235.00	1
BCS 550	550V(20 amp)	1 1/4, 3	1*, 2	235.00	1



Thank you for your attention!

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