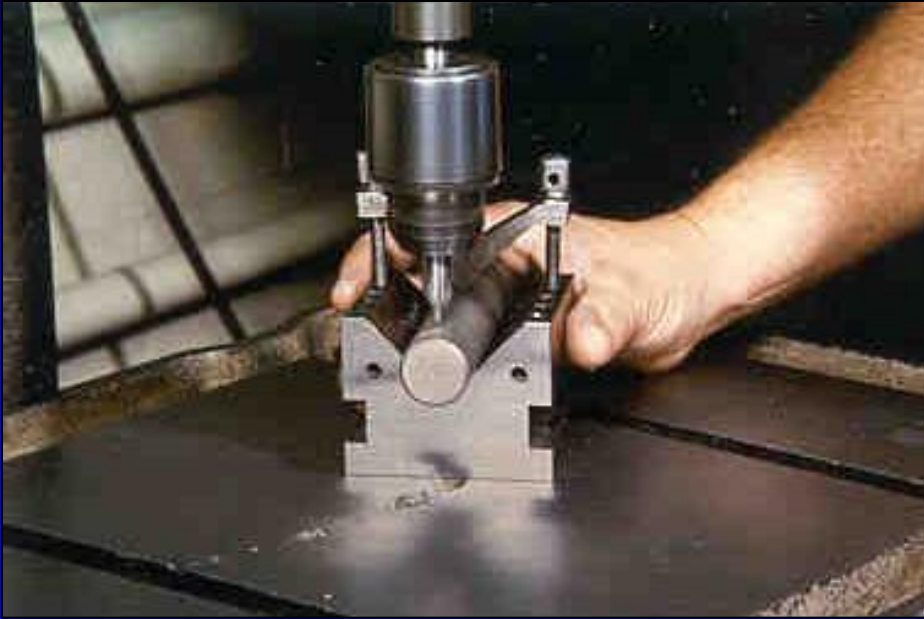


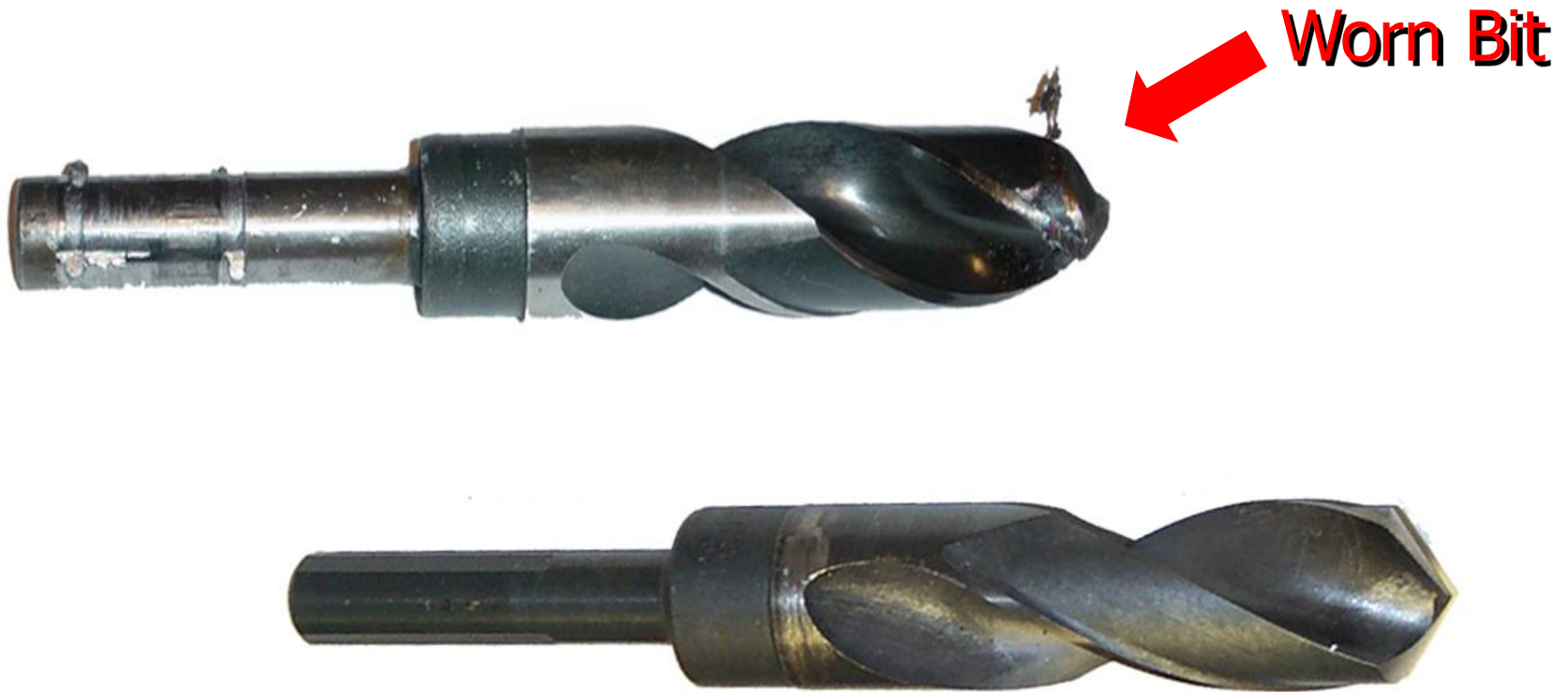
2. Drill Press





The drill press is a tool used to drill holes in steel. A drill bit or shank mounted on a rotating spindle is lowered onto a secured workpiece.

Before you operate a drill press, be sure the drill bit or drill shank you use is not worn or damaged. Preexisting wear is a guarantee of future failure and possible injury.



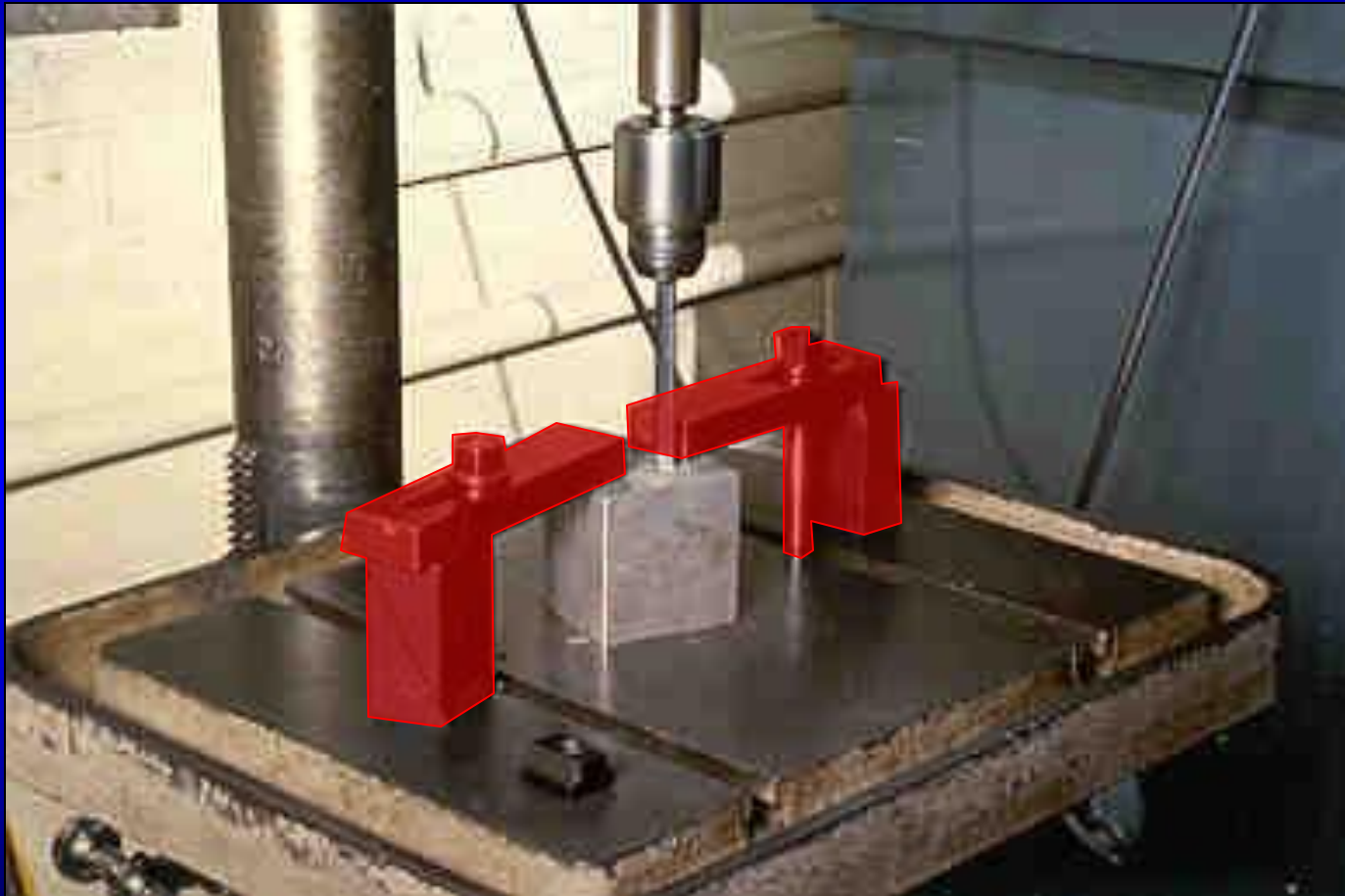
Make sure the workpiece is secured to the bed of the drill press, and that your hands are safely away from the rotating drill.



You can secure work using either a
C clamp...



...or hold down clamps



Drill with the correct speed and feed rates. RPM rates that are too fast or too slow can result in damaged or broken drill bits.



Refer to your speeds & feeds reference for the proper RPM. Many machines are posted with charts.

Revolutions Per Minute for Various Cutting Speeds and Diameters

Ft. Per Minute	50	75	100	125	150	200	300	400	500
Diameter	Revolutions Per Minute								
1/8	1600	2400	3200	4000	4800	6400	9600	12800	16000
3/16	1070	1600	2130	2670	3200	4230	6400	8533	10700
1/4	800	1200	1600	2000	2400	3200	4800	6400	8000
5/16	640	960	1280	1600	1920	2560	3840	5120	7400
3/8	540	800	1067	1333	1600	2160	3200	4320	5335
7/16	460	685	914	1142	1371	1820	2742	3640	4570
1/2	400	600	800	1000	1200	1600	2400	3200	4000
5/8	320	480	640	800	920	1280	1840	2560	3200
3/4	270	400	533	667	800	1070	1600	2140	2665
7/8	230	342	457	571	685	914	1370	1828	2385
1	200	300	400	500	600	800	1200	1600	2000
1 1/8	177	267	355	444	533	711	1066	1422	1775
1 1/4	160	240	320	400	480	640	960	1280	1600
1 3/8	145	218	290	363	436	581	872	1162	1450
1 1/2	133	200	267	333	400	533	800	1066	1335
1 5/8	123	184	246	307	369	492	738	984	1230
1 3/4	114	171	228	285	342	457	684	918	1140
1 7/8	107	160	213	267	320	426	640	852	1065
2	100	150	200	250	300	400	600	800	1000
2 1/4	88	133	177	222	267	355	534	710	8854
2 1/2	80	120	160	200	240	320	480	640	800
2 3/4	72	109	145	181	218	291	436	582	725
3	67	100	133	167	200	267	400	534	665
4	50	75	100	125	150	200	300	400	500
5	40	60	80	100	120	160	240	320	400





There are two methods of mounting drill bits, depending on what type of bit you're using ...

Straight shank drills are mounted on the spindle in a drill chuck.

Straight
Shank Drill



Drill Chuck

Tapered shank drills are mounted using a drill sleeve.

Tapered shank
drill



Drill Sleeve

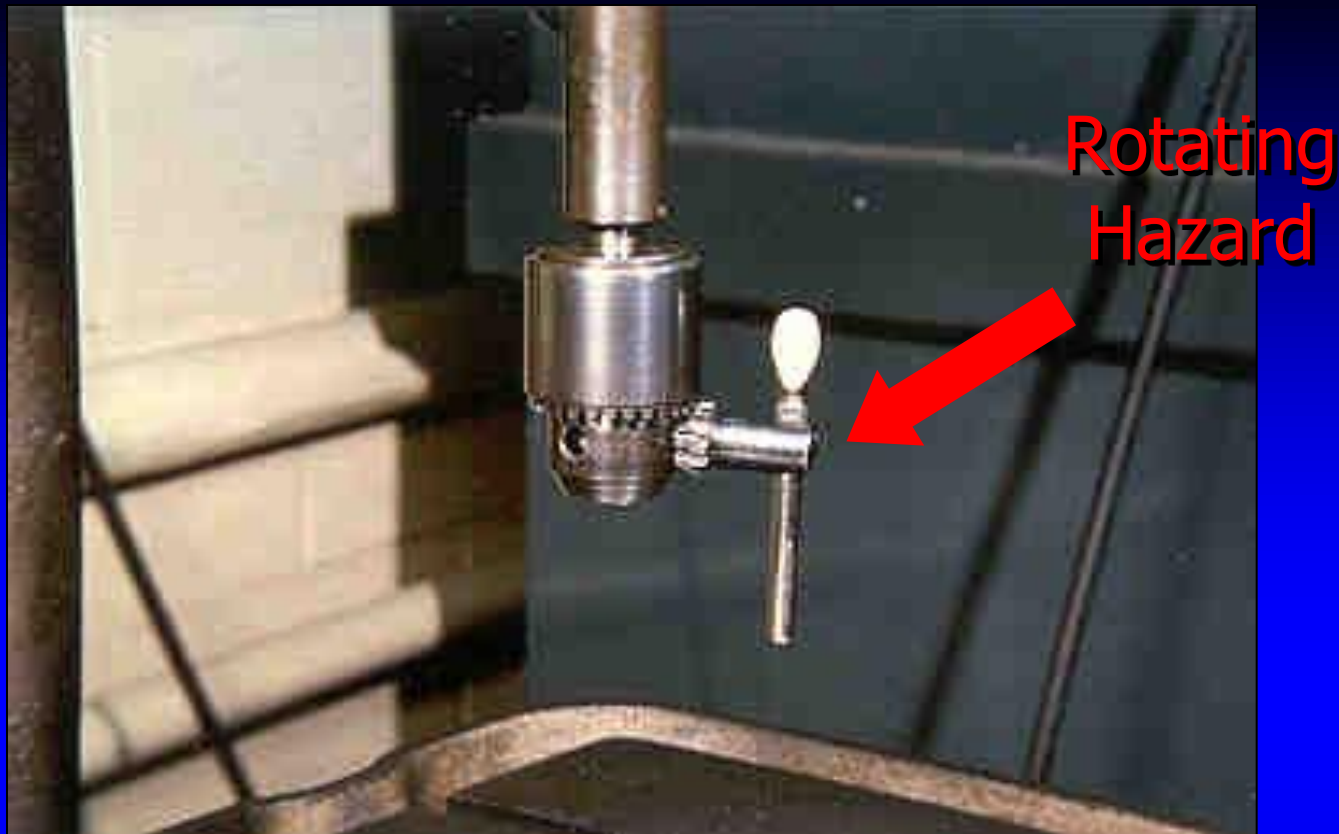


Never mount a tapered shank drill in a drill chuck!
Improperly mounting a drill bit can result in damage to the tool or the workpiece.



When removing drill shanks, lower the drill close to the table. This will reduce the chance that they will fall onto the table.





If you make adjustments to the setup, make sure you remove the chuck key or drill drift immediately to prevent a rotating motion hazard. GM standards require that chuck keys be spring-loaded to prevent this from happening.

Q: Which drill bit goes into this drill chuck?



Straight
shank drill



Tapered
shank drill

A: A straight shank drill is mounted in a drill chuck.



Let's Review

- Check the drill bit or drill shank for wear before using
- Secure workpieces
- Keep hands safely away from rotating drill
- Use proper speeds & feeds
- Mount straight shank drills in a drill chuck
- Mount tapered shank drills in a drill sleeve
- Lower the drill close to the table when removing drill shanks
- Remove all chuck keys and drill drifts
- Never remove chips by hand

Click Here!

