



**Tooling Manual
for
Machining Centers**

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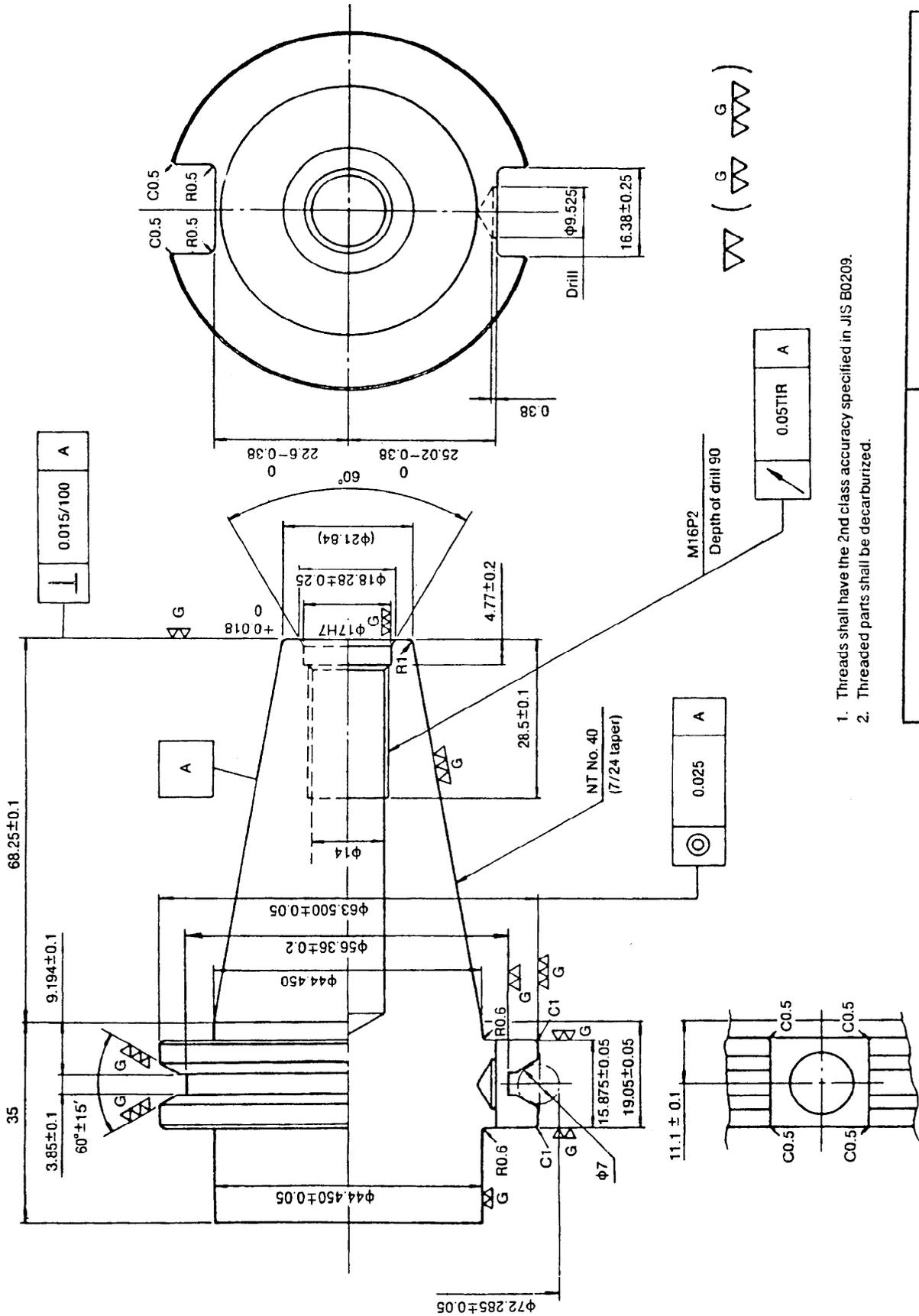
CAUTION

- ⊙ *This Manual is published to assist experienced personnel on the operation, maintenance and/or programming of Mazak machine tools.*
- ⊙ *All Mazak machine tools are engineered with a number of safety devices to protect personnel and equipment from injury or damage. Operators should not, however, rely solely upon these safety devices, but should operate the machine only after fully understanding what special precautions to take by reading the following documentation thoroughly.*
- ⊙ *Do not attempt to operate or perform maintenance / repair on the machine without a thorough understanding of the actions about to be taken. If any question exists, contact the nearest Mazak service center for assistance.*
- ⊙ *Certain covers, doors or safety guards may be open or removed to more clearly show machine components. These items must be in place before operating the machine. Failure to comply with this instruction may result in serious personal injury or damage to the machine tool.*
- ⊙ *This manual was considered complete and accurate at the time of publication, however, due to our desire to constantly improve the quality and specification of all Mazak products, it is subject to change or modification.*

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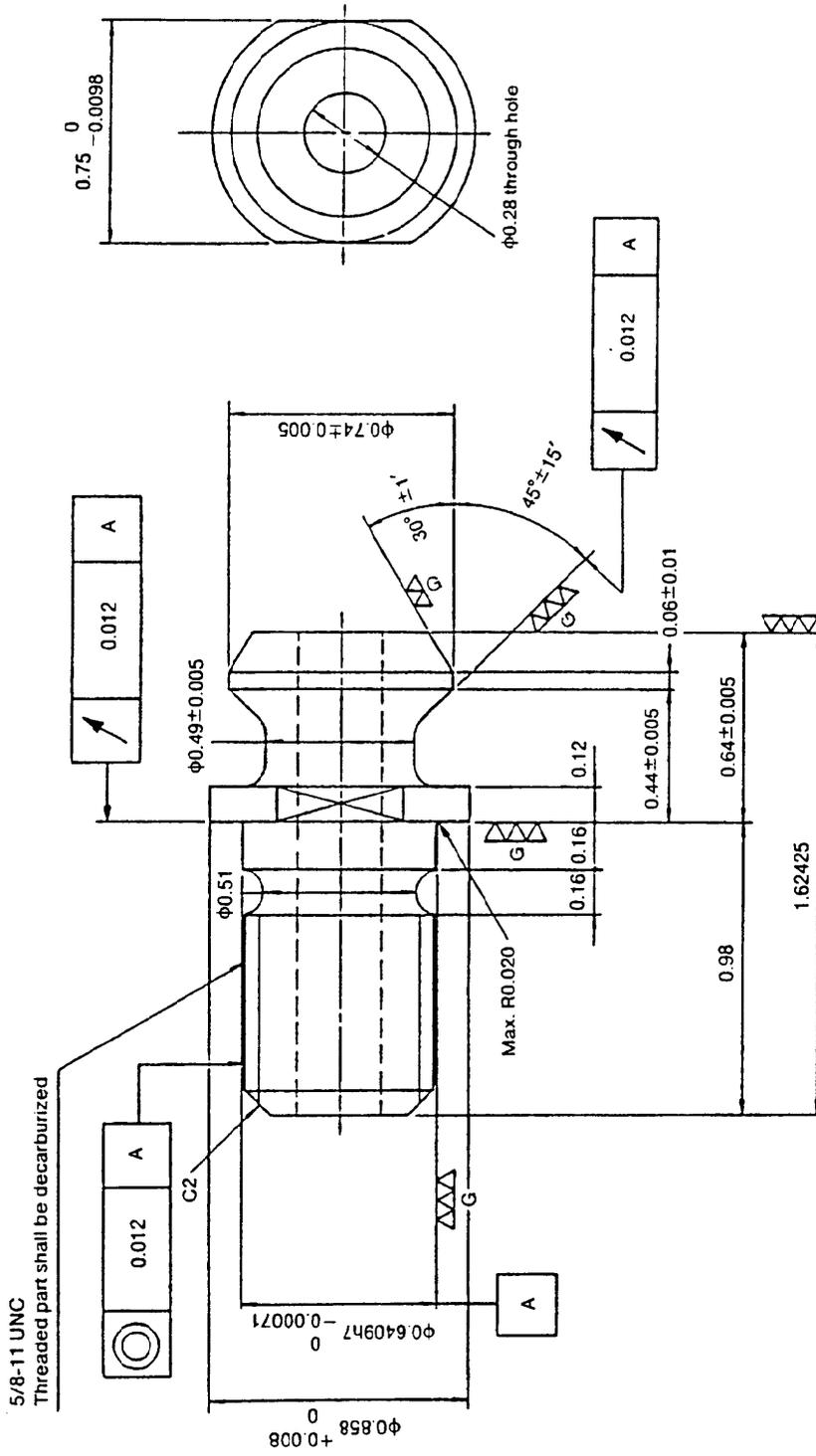
	Description.	Tool shank	Pull stud
# 4 0	Japan	M A S B T 4 0	M A S B T 4 0 ANSI TYPE Part No. (34931900680)
	U.S.A.	C A T 4 0 (Inch system)	C A T 4 0 A N S I T Y P E (Inch system) Part. No. (34931900670)
	Europe	C A T 4 0 (Metric system)	C A T 4 0 A N S I T Y P E (Metric system) Part No. (34931900660)
# 5 0	Japan	M A S B T 5 0	M A S B T 5 0 ANSI TYPE Part No. (44831901160)
	U.S.A.	C A T 5 0 (Inch system)	C A T 5 0 A N S I T Y P E (Inch system) Part No. (44831901170)
	Europe	C A T 5 0 (Metric system)	C A T 5 0 A N S I T Y P E (Metric system) Part No. (44831901180)



1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. Threaded parts shall be decarburized.

Heat treatment	Material	SCM21-H
	Name	Tool Shank CAT. 40 (Metric system)
Carburize quenching		
Case depth 0.6 ~ 0.8 mm		
Case hardness HRC57 ~ 61		
Threaded parts shall be decarburized		

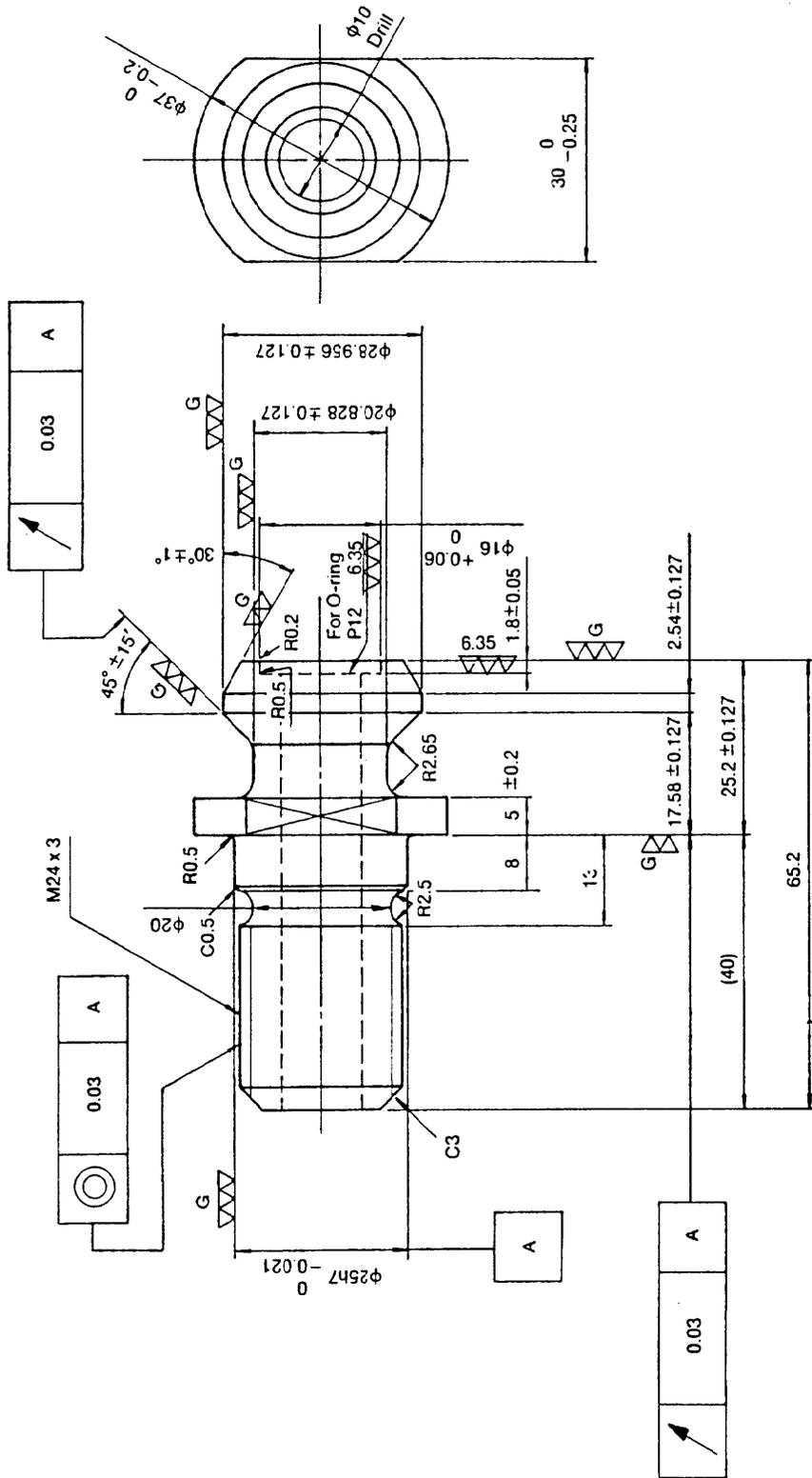
1-6 Pull (Retension) stud CAT. 40 ANSI TYPE (34931900670)
(Inch system)



1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. This pull stud is for CAT No. 40.
3. Radius without specified value shall be R2.

Heat treatment	To be carburized and quenched Case hardness HRC57-61 Case depth 0.6 ~ 0.8 mm Inside hardness HRC35 ~ 45 Threads to be decarburized
Material	SCM420H
Name	PULL STUD BOLT

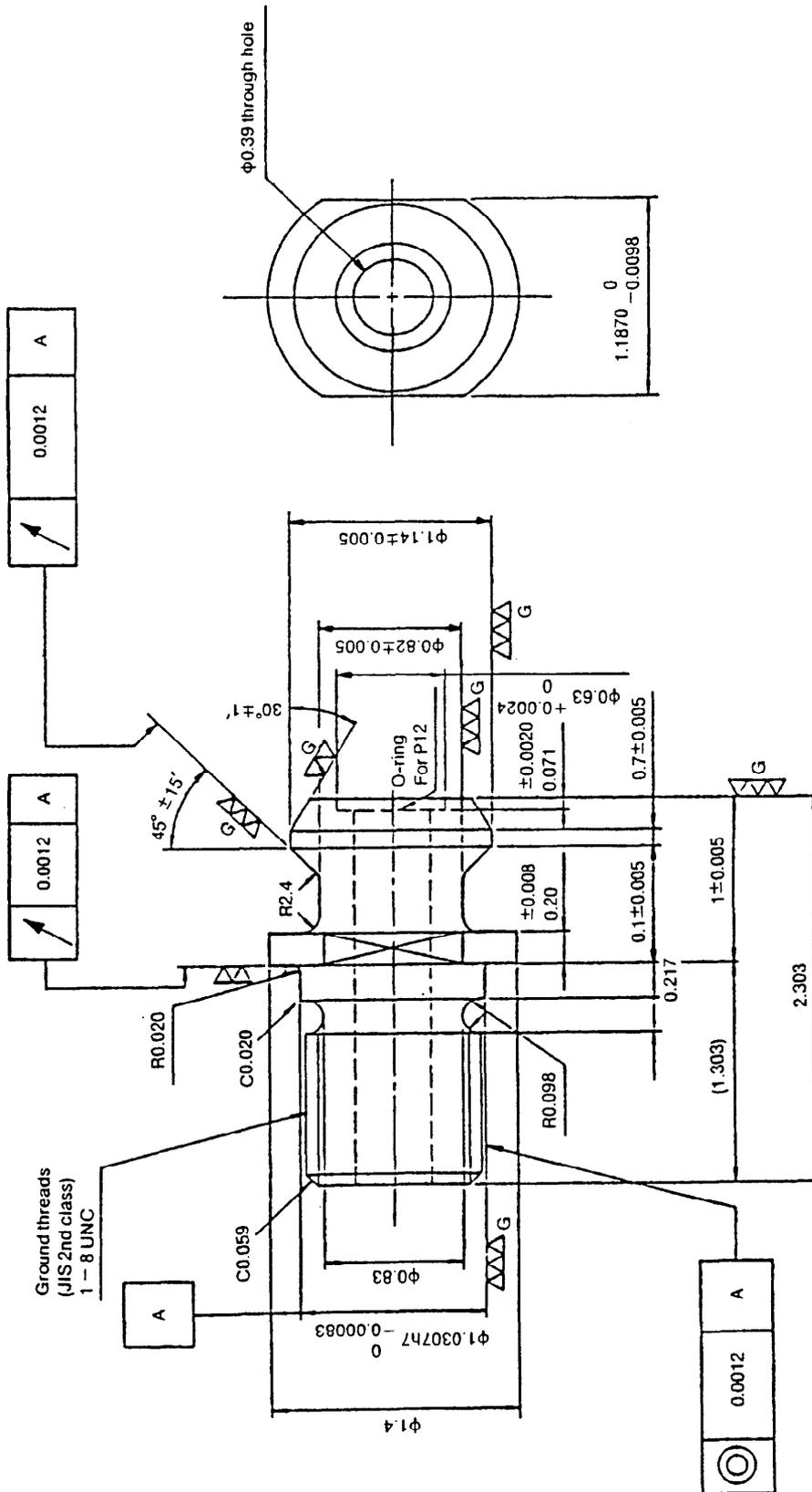
2-2 Pull (Retension) stud MAS BT50 ANSI TYPE (44831901160)



- Threaded part shall be decarburized.
- O-ring P12 shall be attached with adhesive only when coolant is to flow through the hole.

Heat treatment	Material
To be carburized-quenched	SCM22H
Case hardness HRC57-61	Name
Case depth 0.6 ~ 0.8 mm	PULL STUD
Inside hardness HRC35 ~ 45	
Threads to be decarburized	

2-6 Pull (Retension) stud CAT. 50 ANSI TYPE (Inch system)
 (44831901170)



1. Threaded part shall be decarburized.
2. O-ring P12 shall be applied only when coolant is to flow through the hole.

Heat treatment	Material	SCM22H
To be carburize-quenched	Name	PULL STUD
Case hardness HRC57-61		
Case depth 0.6 ~ 0.8		