Part One:

I would reply that stream lining the Package ID will introduce many issues in the database. While it does look better, it introduces some problems for the integrity issues. There should not be multiple nulls in the primary key.

TagNumber	PackageID	InstallDate	SoftwareCostUSD
32808	AC01	9/13/2005	$ 754.95
32808	DB32	12/3/2005	$ 380.00
37691	DB32	6/15/2005	$ 380.00
57772	DB33	5/27/2005	$ 412.77
32808	WP08	1/12/2006	$ 185.00
37691	WP08	6/15/2006	$ 227.50
57222	WP08	5/27/2005	$ 170.24
59836	WP09	10/30/2005	$ 35.00
77740	WP09	5/27/2005	$ 35.00

Primary key: A composite of PackageID and TagNumber

Part Two:

TagNumber	PackageID	InstallDate	SoftwareCostUSD
32808	AC01	9/13/2005	$ 754.95
32808	DB32	12/3/2005	$ 380.00
37691	DB32	6/15/2005	$ 380.00
57772	DB33	5/27/2005	$ 412.77
32808	WP08	1/12/2006	$ 185.00
37691	WP08	6/15/2006	$ 227.50

57222	WP08	5/27/2005	$ 170.24
59836	WP09	10/30/2005	$ 35.00
77740	WP09	5/27/2005	$ 35.00

Functional dependencies
PackageID to Package Name. PackageName depends on
PackageID

Tag Number to Computer Model. ComputerModel
depends on TagNumber

InstallDate and PackageID to SoftwareCostUSD.
SoftwareCostUSD depends on both InstallDate and
PackageID

The table is not in 3rd normal form because some attributes are not dependent on the 3 candidate keys in the table. The Primary key is a composite of PackageID and TagNumber. InstallDate is a candiditate key. ComputerModel is dependent on PackageID and not TagNumber, but SoftwarePackageName is dependent on PackageID not Tagnumber. This means that the table is not in the 3rd normal form.

Part Three:

TagNumber	Computer Model
32808	HP
32808	Dell
37691	Dell
57772	Apple
32808	Xotic
37691	HP
57222	Apple
59836	Apple
77740	Apple

TagNumber to ComputerModel
Computer Model is dependent on
TagNumber
Primary key is TagNumber

PackageID	SoftwarePackageName
AC01	Hello Kitty Island Adventure

DB32	Keylogger_Windows
DB33	Keylogger_Mac
WP08	Daniel Craig: The best James Bond
WP09	Safari

PackageID to SoftwarePackageName
SoftwarePackageName is dependent on
PackageID
PrimaryKey is PackageID

InstallDate	PackageID	SoftwareCostUSD
9/13/2005	AC01	$ 754.95
12/3/2005	DB32	$ 380.00
6/15/2005	DB32	$ 380.00
5/27/2005	DB33	$ 412.77
1/12/2006	WP08	$ 185.00
6/15/2006	WP08	$ 227.50
5/27/2005	WP08	$ 170.24
10/30/2005	WP09	$ 35.00
5/27/2005	WP09	$ 35.00

InstallDate and PackageID to SoftwareCostUSD
SoftwareCostUSD is dependent on InstallDate and PackageID
PrimaryKey is a composite of InstallDate and PackageID. Composite
Key

All of the tables are in 3rd normal form because the columns are either dependent or part of the
primary key. SoftwarePackageName is dependent on PackageID. ComputerModel is dependent on
TagNumber, and SoftwareCostUSD is dependent on the composition of InstallDate and PackageID.

Computers

PK:TagNumber
ComputerModel

Installs

PK: InstallDate
PK:PackageID
SoftwareCostUSD

Packages

PK: PackageID
SoftwarePackageName